The Builder.

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Outre-mer.

THE Report of the Proceedings of the Thirty-third Annual Convention of the American Institute of Architects, though it appears rather late, (the Convention having been held at Pittsburg in November last) contains matter which should still be of interest to architects on this side of the Atlantic. The Americans are at present paying more attention to architecture, showing more interest and we may perhaps say better achievement in the art, than any other nation except the French; and their views upon some of the problems of modern architecture should not therefore pass unnoticed.

The most important subject considered at the Convention, and reported in this volume,* is one which has been several times referred to in our columns, viz.: "The Influence of the French School of Design upon Architecture in America," on which three papers were read, followed by a discussion. The subject naturally includes the whole question of architectural aims and architectural training, for it is according to the view people take on these subjects that they will think the French influence on American architecture beneficial or the reverse. The existence of the "influence" seems to be tacitly admitted. Our own impression, which has been several times recorded, is that the devotion of the younger American architects to the Ecole des Beaux-Arts and to French training and ideas generally has had a pernicious effect on the American school, in injuring its chances of developing a new growth and school of its own in architecture. We are open to conviction, however, and it is at all events interesting to notice how the subject strikes the American architects themselves.

Mr. Brockway, the author of the first paper on this subject, is entirely optimist. His opinion is that the influence of the Ecole des Beaux-Arts training is "broad, noble, artistic, and healthy," and therefore that the training of American architects under it is much to be desired. In reply to the question, Why not give as good a training in America, he replies, "Some day, we hope, it may be as good. That is why we say—go to Paris," in order to learn to make it as good. This is a point in the question which more especially concerns the Americans themselves. The point of general interest is whether the nature of the training is the right one for developing architects. We extract the following remarks as bearing on the general question :—

"The men in the first class [at the Ecole] are a body of architects each of whom has had from three to five years' experience, and their knowledge, judgment, developed and inherent taste are veritable bulwarks for the new men of the second class. Moreover, this influence is always present in the "atelier" and is an invaluable part of the curriculum. Many of these men, in addition to the school work, are earning their living in the offices of various Government architects; some, even, are the sons of famous and prominent architects. During my period of study there, there were four men in our atelier (Ginain) who were sons of Government architects of prominence. Years of office practice here at home could not equal a year or two under such influences. When you add to this the surroundings of the school buildings, the books, photographs, casts, drawings, &c., the ever-recurring *concours* of the painters and sculptors, the expositions of which are held in the Salle Melpomene right at your door, so to speak, the result in the mind and heart of the student is an uplifting one, a loftier conception of architecture results, a devotion to one's chosen work is aroused, a sincerity of purpose, an increase of thoughtfulness, and the memory is stored with experiences to be drawn upon later. One realises that architecture is a fine art."

In a further passage Mr. Brockway remarks on the importance attached to plan in the Ecole system. "The plan is the point of most vital consideration as taught at Paris," and he considers that this influence of the Ecole has been most important in luring away the minds of his countrymen from flashy perspectives to considering the plan. This is no doubt a great thing, and if the Ecole has done that for American students they have reason to feel grateful. It is a point which may come home to the English mind, for we know the difficulty there is, in connexion with the Institute prize designs, in procuring anything like a really well-studied plan from our own students. If the Ecole can ensure this and we cannot, why is this?

Mr. Brockway's reply to the criticism as to the French character of many modern American designs (on which we have frequently commented) is that the conditions of life in civilised countries are getting more and more to an absolute level and similarity, "Government buildings, places of assembly and amusement, living apartments and dwellings, have come to be of a nature to afford about the same accommodations everywhere." This is no doubt true to a certain extent; but there are surely distinctive differences of climate, material, and associations still to be recognised. America, as a young country, is less troubled with associations, certainly, than older countries; but that is exactly the reason why we have always thought she had a chance of evolving something new in architecture, instead of adopting the training of an old country.

Mr. R. A. Cram, the author of the next paper, takes nearly the opposite view, and develops it with a good deal of spirit and point. He thinks that America has suffered from a perception of a want of style in her architecture, and has fled to French training as a training which tends to develop a feeling for style. "France is the only European country where there is a logical system of training, and France has preserved the style of the Renaissance with more vitality than has been elsewhere" (*sic*). In England, Germany, and America it was dead, "though unfortunately unburied;" the new scholasticism has made it thoroughly living in France, and it has been galvanised into life in the United States. It is no use, he thinks, to dispute whether Parisian Renaissance is a good or a bad style for France; it is inevit-

* Proceedings of the Thirty-third Annual Convention of the American Institute of Architects, held in the Monongahela House, Pittsburg, Pennsylvania, November, 1899. Edited by Glenn Brown. Washington: Gibson Bros. 1899.

able or France; it expresses the time and the people and the thing they are pleased to call civilisation,

Let us grant this; let us confess that architecture in France is living, and that the style is just as appropriate to the time as was Doric to that of Pericles: what then? Is there any reason why we should seize upon it and force it on our own civilisation? Are we a province of France, are we in harmony with her ideals and her methods, are we French by instinct and sympathy? If not, wherein is the *culte* of the Ecole any less affected than we who borrow a style for church building from another land? Are they not dealing with an alien style? Are they not trying to express Anglo-Saxon ideas through the medium of a Gallic language?

* * * *

We want architecture that will be logical and national and expressive of the agency that calls it into being. We cannot create a style, for we have not finished creating a civilisation as yet, and that must come first, but we have various powers or agencies that exist more or less independently of national civilisation and are not consequent upon it."

Among these agencies, according to the author, is the Church, which is curiously ignored by the American students of the Ecole. They feel instinctively that the modern French Renaissance does not supply them, at all events, with appropriate church architecture. Hence it evidently cannot be the be-all and the end-all of modern American architecture.

The third paper, by Mr. H. L. Warren, of Boston, is we think the best and most philosophical of the three. He comes to much the same conclusions as Mr. Cram, but by rather a different road. He commences by drawing a picture of the manner in which American architecture suffered, during more than the first half of the century, by the want of trained practitioners There were few men able to design even respectable buildings. At the beginning of the century the architecture of the country was still mainly in the hands of simple craftsmen who were carrying on the tradition of the Colonial period; but their loss of traditional skill and the rival and confusing claims of the Greek and the Gothic revival produced a condition of chaos from which the advent of the professionally trained architect was the only way out. Into this chaos came, in the sixties and seventies, the educated architects; deriving their education from two sources, England and France. The English training, according to the author, resulted chiefly in an importation of the ideals of the English Gothic revival—not much (from the present point of view) to have presented to another country, but it no doubt assisted to some extent. The introduction of the French system, or of the regard for it, was largely owing to the influence of W. M. Hunt, and a number of American architects who are now leaders in the profession were trained in his atelier at New York (no doubt based on the French model), or, like him, went to Paris to study. Mr. Warren considers that, in view of the formless and chaotic condition of American architecture even twenty years ago, they owe an immense debt to the Ecole des Beaux-Arts; but the following is his further comment:—

"In spite of its fine qualities, almost unrivalled in the modern world, there has been constantly apparent in French architecture, since the time of Louis XIV., a note of extravagance, of theatrical display, of redundant, and sometimes tasteless, ornament, which has frequently injured some of its finest productions; but there have nearly always been men like Labrouste, Daumet, Vaudremer, who have, by precept and example, set their faces against this extravagance. But the wave of indiscriminate admiration of the vagaries and vulgarities of Rococo architecture, which has of late swept over the civilised world like a plague, has made itself felt nowhere more strongly than in Paris, and the mad craze for novelty for the sake of novelty has run riot in an extravagance of *hautes nouveautés* which is enough to make Labrouste and even André turn in their graves."

Like another of the speakers, Mr. Warren insists strongly on the value of the French training, as a system, on account of its insistence on composition, its excellence of proportion and mass, and its mastery of monumental planning. The imitation of French work he thinks is only a passing fashion. "The principles that have been learned we may hope to keep." That is, we think, the right way to look at it.

In the short discussion which, in the pages of the Report, follows these papers, it may be discerned that there was rather a general concensus of feeling in favour of the views expressed by Mr. Cram and Mr. Warren. The excellency of the French system of training, as training, was generally admitted; the excellence of French architecture, as an objective for imitation, was considerably called in question. There was also a general feeling that individuality in American architecture, even with every desire to preserve style, was by no means an impossibility or even hopeless, on the mere ground that each nationality had inevitably its own stamp in its own way of doing things. This, of course, was what was practically denied by the reader of the first paper, but Mr. W. R. Ware, in some remarks which closed the discussion, gives the following instance of this, which is not only interesting in itself, but also in the fact that our own Institute of Architects was the scene of the experience narrated:—

"I have no doubt that an American way of using these things will come, if it is not here already. I am confirmed in this by an experience which I had thirty-three years ago, when I had the honour of performing the part—the self-appointed but none the less the honourable part—of being an ambassador from this body to the Royal Institute of British Architects. I thought it would be a fine thing to travel around as a minister plenipotentiary, and I went to the President and to my friends who were then members of the Institute, and collected a portfolio of photographs, which I took to England with me. I engaged a cab and drove up to No. 9, Conduit-street, and presented them, in as great state as I could command, to the Secretary of the Royal Institute of British Architects. In a few weeks there was a meeting set apart to receive this distinguished gift, and the things I brought in the portfolio were hung up around the room.

These things were patent imitations of the Roman, German, Italian, French, and English architecture of the day, or of past days, and were pretty successful in imitating the manner and spirit of the originals. But you do not know how queer they looked when they got over there. They did not look French, English, German, or Italian, but they did look American; and greatly to their credit. These drawings were not unduly praised nor blamed, but the gentlemen said, 'How interesting these things are; how unmistakable a type; how perfectly obvious it is that these never could have been done in any other country than America.' That was not said in a spirit of derision, but of respect and regard. They saw the different way we had of doing things."

We are quite certain no remark would be made "in derision," but considering that this was thirty-three years ago, there may perhaps have been a sub-feeling, of a kindly nature, that the Americans at that date did not handle Classic or Gothic detail quite according to knowledge. Nowadays there is no doubt that, in the way of Classic detail at all events, they would probably make a better show than we do, thanks to Ecole des Beaux-Arts training. Still, the anecdote is not without its point.

Almost concurrently with this Report of the Convention of American architects there comes to us a book containing, among other matters of interest, a large number of illustrations of recent American architecture. This is the first issue of "The Architectural Annual."* This handsome volume contains a considerable number of essays by leading American architects, and a great number of illustrations. The whole of the California University designs are given in it—the whole of the second competition, that is to say, and it includes also a good many illustrations of the Paris Exhibition buildings; but the remainder are mostly of American architecture. The longest article in it devoted to a description and illustration of the works of a young architect, Mr. Wilson Eyre, jun., who, though born in Florence, is a Philadelphian by descent, and whose collective designs, in their variety and originality, justify the space bestowed upon him. We may presume that this method of illustrating the works of one man specially is intended to be a feature in future issues of the "Annual." A good many of Mr. Eyre's drawings consist of first studies and sketches for buildings and decorative details, and show a great deal of genius, originality, and variety. Moreover, they certainly afford evidence in favour of the view that there is, or is possible, a distinctively American treatment in architecture. A good many of these designs one would hardly connect with any other country but America; they are certainly for the most part neither French nor English in feeling. Two which are on facing pages strike us as particularly good in their very different ways; a sketch perspective of some offices for a firm in Philadelphia, and two small elevations of an upright piano, with outline sketches of two symbolical carved figures which are seated at each end of the top of the instrument. Some sketches for small centre medallions for stained glass are very noteworthy. The "House and Stable at Lansdowne," picturesque enough, represents that kind of return to the primeval architecture of the hut—in a more elaborated form—which is perhaps a little too much affected in some designs for American country houses. On the other hand, a design for the Borie Bank, Philadelphia, a building mainly in brick with a modillion cornice, is an excellent example of sober and restrained architecture suitable to a business building; it might be described as Queen Anne style, or based upon it; but in various details, such as the picturesque projecting iron balconies, it has a character of its own, and is not like an English building. The interior seems also to be treated in a sober but characteristic manner. Altogether, we feel indebted to the "Architectural Annual" for making us acquainted with the work of such a clever and, we gather, still young American architect. On the other hand, one or two illustrations

* "The Architectural Annual": Published under the auspices of the Architectural League of America, and edited by Albert Kelsey, late holder of the Travelling Scholarship in Architecture of the University of Pennsylvania. Issue for 1900. Philadelphia.

contain a little gentle satire on foreign tendencies in American architecture; a very Parisian-looking hotel at New York is given with the addition "But not the French quarter," and "The Pennsylvania Institution for the Blind" is tagged with the question "*Why* Pennsylvania?" the query is to the purpose, for it would certainly be taken for a rather plain and unpretending Italian building. Two front elevations submitted in competition for the New York Custom House are exceedingly French in style and appearance, though these are not used to point a moral. The "U.S. Immigration Station, New York," by Messrs. Boring & Tilton, also shows much trace of French influence. In a note to the design it is stated that it "furnishes an object lesson in the advancement of Government architecture. It represents one of the few buildings" (one of the few Government buildings we presume is intended) "erected by private architects from a successful competitive design." This design, with the comment, furnishes evidence of what has been already referred to in this journal, in connexion with a recent discussion at the Architectural Congress in London, as to the importance which, in the United States, is attached to the removal of Government architecture from the hands of official architects. Two designs of "high buildings," on the other hand, are distinctively American building—those of the Pabst Building, Milwaukee (Mr. S. S. Beman) and the Conqict Building, New York (Messrs. Sullivan and L. P. Smith). This latter, we see, is praised by Mr. Russell Sturgis and others as showing the true treatment of the lofty metal-framed building, but we have seen others we liked better; we presume that the piers are a casing, either of stone or terra-cotta, but if so, they look too thin for the material, and too much like an attempt to give the effect and proportions of metal to the casing, as a kind of indication of the metal structure behind it. Whether this is right in abstract principle is a long question; but the concrete effect in this case is disagreeably thin and wiry.

Among the subjects treated in the articles are "Street Pageantry, a New Field for the Architect and Sculptor"; "A Code Governing Competitions"; "City Bridges"; and "Transportation Architecture," or the architecture of city railway stations. Among the illustrations to this latter article the new railway station at Tours, by M. Laloux, is noticeable as a precisely logical treatment of a railway station front; it is somewhat like the idea of the King's Cross Station façade with sculptural and architectural detail added, and is a work highly creditable to the eminent French architect.

The "Architectural Annual" is beautifully printed and got up, and is in every sense a most interesting addition to illustrative architectural periodicals (if a work issued once a year is to be classed as a "periodical"), and we hope to welcome many more issues of it.

THE ROYAL ARCHITECTURAL MUSEUM.

(FROM A CORRESPONDENT.)

IN common, I presume, with the majority of the architects in London, I received a lithographic circular letter inviting me to attend the recent general meeting of the Royal Architectural Museum Society, or Company, as I believe it now to be. I made a point of attending the meeting, for old acquaintance sake, having known the Museum for more years than I care to remember, while my so doing was not of any particular merit, seeing that I happen to be a neighbour; but I confess I was startled at the unexpected poverty of the response to the circular in question. There was an entire absence of the younger men, who are usually to be found taking their part when some matter of architectural interest is in agitation, and it seemed to me as if only the representatives of the generation that founded the institution remained to take any interest in it. It appeared, moreover, from the proceedings, that this is admittedly the case, and that had it not been for the highly successful art school that has grown up within its walls, the doors must long ago have been closed.

To any one who knows, from such sources as Sir Gilbert Scott's autobiography, the efforts and struggles, the enthusiasms, indeed, that created the Architectural Museum, such a state of decay must appear sufficiently mournful.

The truth is that the promoters failed at a critical period—that at which they left the temporary shelter of the then newly rising South Kensington Museum—to realise the turn of the tide and to grasp the significance of the movement that was taking place around them, with the result that their rival filled up the gap, and, through the study of the Early Italian work promoted by them, exercised an extraordinary influence on subsequent architectural developments.

At the meeting I listened to some talk of an attempt to repair this blunder, and to restore the usefulness of the institution by obtaining casts to illustrate Classic work; but while no one would hesitate to advocate that course, one cannot but fear that it may be too late, at any rate so far as the Early Renaissance is concerned, seeing how splendidly, by the purchase of originals, by casts, drawings, and photographs, South Kensington has occupied that field.

Architects and students can only be attracted by catering for their most pressing wants. Without questioning the purity of the enthusiasm of the leaders who established the Architectural Museum, it must be borne in mind that a very real demand for examples of Gothic work existed at that time in connexion with the everyday office work of the revival period. This fact led the late G. E. Street rather to oppose the Museum as tending to "cribbing," while Sir G. Scott, in later life, came to realise that there was a fashionable side to the whole revival movement. The point, therefore, is, should not those who would restore the past architectural influence and life of the Museum proceed at once to provide for the most up-to-date requirements of the students and architects of to-day, relying on the real worth of the present specimens of Gothic art to attract their special devotees? It would seem to be a case with the authorities of "Rusticus Expectans," &c., while from another point of view they would be better advised in wrapping up their pill in the most modern jam.

In any enlargement of the scope of the Museum it will be hard to surpass the South Kensington Museum in Early Italian, or the British Museum in pure Classic; but in later phases of the Renaissance, and particularly in the work of our own country, much might be done that would give to the Royal Architectural Museum a special character, so that it would be a place which the modern student could not afford to neglect.

It is precisely that element of indispensableness that the directors in the past have failed to maintain, until by the natural flow of time they have found themselves deserted.

It is not a question of personal sympathies and beliefs, but of illustrating the best of all schools, and of serving each generation of students to the utmost of our abilities, not on the lines which we might prefer, but in the way of their own natural development. I am driven to dwell on this point because, on a reference to the proposed Classic casts, an old member stated they had already got them, which is true in the sense that on the topmost floor, and high up, is a most inadequate collection of some fragments of Classic detail, and I remember that there used to be some small and useless models of the orders.

It may be remarked that casts are not necessarily expensive; it is surprising how advantageously they may be obtained, at any rate abroad, while much may be done with drawings and photographs to illustrate a period.

I understand that the recent erection of some classrooms has removed another great drawback to effective study, namely, the former somewhat embarrassing monopoly of the Hall and its galleries by the fair students of the Art School.

Every architect must wish success to an effort to restore and increase the usefulness of this valuable Museum, which might grow, indeed, until it could challenge some comparison with the well-known galleries of the Trocadéro at Paris.

X. Y. Z.

NOTES.

The Westminster Improvement Scheme.

THE House of Lords Committee have quite rightly declined to sanction the scheme of the London County Council for Westminster Improvements as brought before them. The County Council, with that preference for the shortest route and utter ignoring of architectural alignment which is characteristic of nearly all public bodies in England when dealing with street improvements, proposed, in making a new street to the end of Lambeth Bridge, to bend the line of Abingdon-street where it starts from Old Palace-yard so as to take it by the shortest line to the head of the bridge, thereby not only destroying the vista from the south of St. Stephen's Porch, but (which to our thinking is even more important), destroying the parallelism of the west side of the street with the Houses of Parliament. It seems almost impossible to understand how the governing body of a great capital, suggesting a large and costly improvement, should have been so totally blind to the architectural conditions of the scheme as affecting the appearance and surroundings of our greatest modern building. It is a question, certainly, whether the House of Commons would have done any better, but this is one of the cases in regard to which even radicals who care at all about the architectural amenity of London may be grateful that we have a House of Lords, which contains some members who are not quite without perception on points of this kind. The Lords' Committee have required that the Abingdon-street line should be preserved

parallel to the Houses of Parliament as far as they extend; after that it may take a slight angle towards Lambeth Bridge. We should have thought it best that the Abingdon-street line should have been continued further and Lambeth Bridge reached by a quadrant turn at the end, but for one consideration—the position of St John's Church. If this church is to be opened out in a symmetrical square according to the arrangement shown in the County Council Plan (and adopted without acknowledgment from a plan in the *Builder*), the new road should run, at this point, parallel with one face of the church. This has been overlooked in the Lords' Committee amended plan, where the road is very nearly at right angles with the axis of the church, but not quite; thus, in this respect, it is neither one thing nor another.

Architectural Congress at Paris.

THE International Congress of Architects, which will be held in Paris, at the Ecole des Beaux-Arts, from July 30 to August 4, is an occasion of some interest, and it is to be hoped that English architects will be well represented there. The questions to be discussed have been selected by the Paris Committee with the object of avoiding subjects of partial or local interest, and only treating of such as may equally concern architects all over the world. The subjects for consideration are: (1) "La Propriété Artistique des Œuvres d'Architecture," a question already partially discussed at the Brussels Congress in 1897; (2) "L'Enseignement de l'Architecture," a question which has already been before both the Paris Congress of 1889 and the Brussels Congress of 1897; (3) "Du Titre d'Architecte dans les diverses Pays," a subject included at the request of the "Société Academique d'Architecture" of Lyons; (4) "L'Habitation à bon marché dans tous les Pays," included at the suggestion of the Institute of British Architects; (5) "De la Conservation des Monuments," included in accordance with a suggestion received from Germany; and (6) "De l'Influence de la Réglementation Administrative sur l'Architecture Privée Contemporaine," suggested both by the German architectural societies and the Institute of British Architects. If these subjects are to be at all fully discussed, it must be admitted that the week will be pretty well filled up, independently of the projected visits to buildings in progress, to the great Exhibition, and to Chantilly. Those who have not seen the last-named place should not miss this excursion. Chantilly in its way is unique.

Architects in New South Wales.

THE twenty-eighth annual Report of the Institute of Architects of New South Wales shows that it has only yet attained a total of thirty-five members. These numbers surely are not any proportional representation of the number of architects in New South Wales; and if not, why do the others stand aloof? Much cannot be expected from a Society so limited in numbers; nevertheless it appears to be doing a creditable amount of work. During the session papers on the following subjects have been read, viz.:—

"1. 'Some Disputed Points in Building Construction,' by Professor Warren, M.Inst.C.E.

2. 'The Law of Building Contracts,' by H. de B. O'Reilly, B.A., LL.B.

3. 'Sanitation, as applied to House Building,' by J. M. Small, C.E.

4. 'The London Building Act,' by N. Phelps Richards."

At the suggestion of the Council Professor Warren also delivered a lecture on the "Results of Tests made at the University upon Trachyte." These results were laid before a large meeting of architects and engineers, and the lecture in pamphlet form was printed and distributed gratuitously among those interested. The Council has been in communication with the Royal Institute of British Architects with reference to the establishment of the R.I.B.A. Examinations in Australia. Negotiations are now nearly completed, and it is expected that during next session the first of the examinations for that Associateship will be held at Sydney. On the proposal of the Council it has been arranged that a conference of Australian architects shall be held during 1900, in which all the Australian institutes have promised to co-operate. The subjects set down for discussion are those which interest the whole of the profession in Australia. In connexion with the conference there will be an exhibition of drawings illustrative of the growth of architecture in Australia during the nineteenth century.

Gas Testing by the L.C.C.

LAST Tuesday the London County Council had under consideration a Report from the Public Control Committee relating to gas testing, and agreed to the recommendation "That the Council do ask the Board of Trade to institute an inquiry as to the cause of the persistent differences between the results of testing the illuminating power of gas supplied by gas companies at prescribed testing places and of tests made with the portable photometer of identical construction of gas supplied to other buildings in the county." Reference is made in the Report to the employment of the portable photometer in Liverpool by Mr. Bellamy. It is stated that it has been "agreed between the gas company and the Corporation [Liverpool] that the testing in the various parts of the city by the portable photometer should be accepted as evidence of the quality of the gas." The natural inference from this statement would be that the gas company is subject to the same liabilities for low results obtained with the portable photometer as for similar results obtained at the ordinary testing stations. We believe, however, that the arrangement is a purely voluntary one, and that no legal action can be taken against the gas company for any results obtained with the portable photometer. We understand that when low results are obtained the company is informed as to the place in which the tests were made, and if satisfied that the tests were made under fair conditions, undertake to clean or alter the service-pipes until the photometer shows the gas to be of the same quality as that being sent out from the gasworks. We know of no reason why a similar arrangement should not be made in London, to the mutual benefit of consumer and supplier. The proposed inquiry could but elicit a repetition of the information recently obtained by the Parliamentary Committee already mentioned. It is not probable, however, that the gas companies will offer any opposition to the suggestion, since there is little doubt that the Board of Trade would merely confirm the policy adopted by the Parliamentary Committee.

The District Messenger Company.

WE regret to learn from the Report of the Directors of the District Messenger Company, that the Postmaster-General has intimated his decision not to renew the Company's licence to carry letters, but has suggested that the Company should collect them and hand them over to the Post Office to carry. A more absurd proposal could hardly be made, it is one which would unquestionably destroy the whole value of the Messenger Company's service, and in fact put it out of existence. The Messenger Company state that in order to satisfy the Post Office authorities that such a scheme was impracticable a series of experiments was made. Nine messages were sent, first by the present system, secondly by the suggested new system. The result was an average delay of eighteen minutes on each message (new system). The Messenger Company has therefore intimated to the Post Office that it is unable to accept the suggestion made, and has strongly urged the Postmaster-General, on grounds of public convenience, to make the Company its agents, not only to collect urgent letters, but also to carry them when collected. A scheme to destroy the whole usefulness of the District Messenger Company by making it subordinate to the Post Office service comes, we may add, with a particularly bad grace from the Post Office Department at the moment when there is a general complaint of the disorganisation of its own system and of the constant delay of letters.

Metropolitan Railway, Paris.

LAST week the Chemin de Fer Métropolitain was opened to the public, although all the stations are not yet available for use. Extending from Porte Maillot, at the entrance of the Bois de Boulogne, to the Cours de Vincennes, this line will prove of inestimable value to the inhabitants of Paris and to visitors attending the Exhibition. During the intolerable heat of last week the new line was the only place where one could enjoy a reasonable temperature for a few minutes, and the contrast on emerging into the open air was particularly striking. Although the stations are at present somewhat difficult of discovery, and no publicity seems to be courted by the administration, the trains have been crowded ever since the opening of the line. The tunnel is almost immediately beneath the ground level, and contains both the up and down lines. Electric traction has naturally been adopted, propulsion being effected by motors attached to the vehicles, which are of first and second class. So far, the whole of the arrangements appear to be very satisfactory, but the length of the trains is decidedly insufficient. The Champs Elysées station adjoins one of the principal entrances to the Exhibition, and at Vincennes there is a regular service of electric trains to and from the Annexe.

St. Anne's Church, Soho.

DR. TRISTRAM, Q.C., Chancellor of the Diocese of London, after hearing the petition of the Rector and Churchwardens in the Consistory Court on the 19th inst., agreed to issue a faculty authorising a conveyance of a portion of the churchyard to the Strand District Board of Works. The Board seek to widen a portion of Wardour-street, on its eastern side, by taking a strip of the churchyard—its length being 155 ft., and its width, tapering from north to south, from 9 ft. 4 in. to 7 ft. 4 in.

—and will pay 490*l.*, which sum, it was stated in court, the Rector will devote to church purposes. The burial-ground, closed in respect of interments in August, 1853, was leased to the Board for a term of twenty-one years from March 25, 1892, as an open space, and was then laid out by the Metropolitan Public Gardens Association for a public recreation ground. The Board undertake to remove and re-inter any human remains, graves, or vaults that the site in question may contain, to build a new west wall with gates and steps for the churchyard, and to make good any damage that they may do to the trees, plants, and walks of the ground. The parish was taken out of that of St. Martin-in-the-Fields, and the church—dedicated to St. Anne in compliment to the Princess Anne of Denmark—was completed in 1686, having been erected in Kemp's-field. The tower, as depicted in the view by B. Cole in Maitland's "History of London," 1756, had originally four angle vases, and carried an ogee-shaped eight-sided cupola, which supported an open octagonal lantern, surmounted with a concaved base bearing a bulbous-shaped spire and finial. Those features were taken down in June, 1800, and in pursuance of an Act 42 Geo. III., c. 72 (1802), a sum of 6,000*l.* was raised by annuities to meet the cost of rebuilding the tower, vestry-rooms, watch-house, and engine-house, and of various repairs. These works were carried out by S. P. Cockerell, and finished in 1803; *teste* Malcolm's "Londinium Redivivum." The existing singular spire, of which the copper globe contains the clock's dial-plates, is due, perhaps, to Cockerell; its design is often, but not authoritatively, ascribed to Henry Hakewill the elder (1771-1830). The fabric of the church was restored by the late Sir Arthur Blomfield. In the Crace Collection are another view—by B. Cole (1754)—of the church from the north, and W. Pearson's drawing (1810) of the west front.

The Liverpool Cathedral Scheme.

A CORRESPONDENT points out, what we find is the case, that we were not quite accurate in stating, in our note of last week, that Mr. Emerson "won" the original Liverpool cathedral competition, as the assessor, the ate Mr. Ewan Christian, avoided making any distinct award; his taking this course was, in fact, the weak point in connexion with the competition. His Report on the designs, however, practically amounted to a preference for and recommendation of Mr. Emerson's design, and we took it as such at the time, as we find on reference to our pages of that date.

THE ARCHÆOLOGICAL INSTITUTE AT DUBLIN.

THE annual meeting of this Institute, which is this year held in Dublin, opened on Wednesday, July 18, with the President's inaugural address. The address was read in the "Oak Room" at the Mansion House, before a large audience of members of the Institute.

Alderman Flanagan, the Lord Mayor's *locum tenens*, bid the members welcome to Ireland's capital, and, whilst regretting the Lord Mayor's absence in London on municipal business, he trusted they would take with them on their return pleasant recollections of the ancient city. He asked Lord Rosse to take the chair as President of the meeting.

The Earl of Rosse then took the chair, and, after welcoming the members on behalf of the Royal Irish Academy, delivered an address. In calling the members' attention to the various antiquities they would examine, he said that Ireland had not been invaded by as many nationalities as England. The Romans were never here. The Danes, or Northmen, made, however, many descents and had their quarters for some time in Dublin, where the Royal Barracks are now situated. A bloody battle was fought between the inhabitants, under Brian Boru, and the Danes upon the plain of Clontarf.

Scattered over the country were numerous earthworks, circular in outline, known as "Raths," locally termed Danish forts, although there was no evidence to show that the Danes penetrated far into the interior. The members would visit buildings of more meagre history, dating back to the supposed time of St. Patrick. In the Isles of Arran erections supposed to be of the first century might be seen, although not included in the official programme of the excursion. In the largest and middle islands of Arran there were eight forts of unhewn stone, circular in form, with walls 12 ft. thick and 20 ft. high. The "Cloghauns," or beehive dwellings, could be found in Kerry. The paper would be incomplete without reference to the bogs so common in Ireland, and which rivalled the ashes of Pompeii in connecting the past with the present. Canoes, articles of clothing, gold ornaments, and bog butter were often discovered in excellent condition, and the body of a woman dating from pre-Christian times had been found in such preservation that an inquest was held, the jury returning a verdict of "Found dead." The Arran Isles possessed most curious customs, the inhabitants still wearing raw cowhide soleless boots, sewn like a bark canoe, and put on wet to adapt themselves to the shape of the foot. A good example of a pointed church would be found near the Rock of Cashel, and was worthy of study, as also was the more ancient Cormac's Chapel adjoining. Attention should be drawn to the Round Towers, about the origin and use of which so much controversy raged. The Irish castle was generally a square tower, with no ornament, having one room on each story, usually vaulted, and was a most uncomfortable dwelling in every way. The members would doubtless visit the National Museum, in which was stored a splendid collection of Irish art, and they would find unique examples of illumination, such as the "Book of Kells." It would be observed that the architecture of the country was exceptionally plain, owing to the material at hand, which consisted of granite or carboniferous limestone of a very durable nature. The hardness of these stones made carving difficult, but when found the work was naturally very sharp and well defined.

Sir Henry Howorth, President of the Institute, said they had come to Ireland with the greatest delight. He expressed, on behalf of the meeting, their thanks for the address the Chairman had delivered.

The meeting then adjourned for luncheon, and in the afternoon the members, under the guidance of the Cathedral architect, Sir Thomas Drew, visited St. Patrick's Cathedral, and afterwards drove to other places of interest in the city, including Dublin Castle and Trinity College. In the latter place they were shown through the library and inspected the valuable manuscripts therein.

The Antiquarian Section of the Institute opened on Wednesday evening in the rooms of the Royal Irish Academy, which have been lent for the use of the various sections. There was a large attendance when Lord Rosse took the chair at 8.30, and called upon Sir Thomas Drew, R.H.A., to read a paper upon "Dublin for Archæologists."

The lecturer, after welcoming the visitors on behalf of the Royal Society of Antiquaries of Ireland, said: "There is a note of sadness in thinking that this meeting in Ireland has been deferred so long. It seems but so few years since amongst the hosts of the Institute might have been some of the greatest of Irish scholars and archæologists, now, alas, but great names. There is, perhaps, the cheering side that to-day is the day of popular archæology; that for one profound archæologist of the past there are now ten, perhaps, unprofound, but interested followers of the science. The oak trees have fallen, and the aftergrowth of the woods is not quite the same. [The speaker having referred to the scientific works of Sir William Wilde, Sir Samuel Ferguson, Dean Reeves, George Stokes, and Sir John Gilbert, and the gaps their loss had created in the ranks of Irish archæologists, proceeded]: And now for a paradox. You have not come to visit an Irish city at all! You are not now even in the city of Dublin. The ancient city formed but a small part of the area of the present. Somewhere about 850 A.D.—allowing a discount of four hundred years or so to Irish chroniclers—the now interesting marauders, white 'gaels' or black vikings, Northmen, Ostmen, makers of history in these islands, ran their long galleys into the Liffey estuary, and made a footing on Irish soil. It was in a time when in the wide delta of the river spring tides would have rippled up to the walls of the Chapel of All Hallows, where the modern belfry of Trinity College stands on the site of the old one. But a few months since I uncovered the old river margin in the college and its landing stage for boats. The Northmen liked such low estuaries where they could run in and beach their galleys; and here, according to custom, they did so, and set up the 'Great Steyne,' a standing pillar-stone, which gave its name to Steyn in Scotland, Staines near Windsor, and probably Brighthelmstone or Brighton.

This record of the Danes was standing within the century. The Dune of Dublin—a crest of strategic capability, now crowned by the ancient City Cathedral—they made their circumvallated fortress. It is to be remembered that Dublin gives up its own internal evidence that it had no existence as a city—Ptolemy and the guide-books to the contrary, notwithstanding—until the Danish pirates made it their *pied-à-terre*, and held it grimly against the natives until 1038. In that year the battle of Clontarf weakened their hold on Dublin, but did not dislodge them. In that year Sigtryg Silkbeard, the Danish king of Dublin, actually founded a Christian church, which he called Christchurch, and you may walk to-morrow in the crypt surviving of that church.

At Dublin, Waterford, and Limerick we have still the separate Danish communities, surviving in their own walls until the Anglo-Norman invasion of 1169, when the history of present Ireland may be said to start. The wave of settlement of the dominant and masterful people of Anglo-Norman ascendancy was as inevitable as fate. It was the destiny of an Imperial race to pass over a narrow sea to the mastery of a rude and divided people."

Sir Thomas Drew then explained at some length the cause of the presence of two cathedrals in Dublin—Christchurch and St. Patrick's—and related the history of the foundation of the former by Strongbow, Fitzstephen, Raymond-le-Gros, and Laurence O'Toole—an Irishman of gentle birth who was educated at one of the famous Irish seminaries still surviving. There was also Basilia, the sister of Strongbow, who assisted in the work, and whose effigy was found in the place of honour in the chapter-house in 1886. Laurence O'Toole, who knew Italy and the church building of the Comacine brotherhood beyond Ireland, brought over a foreign architect, a Comacine master from Parma. In the last few months Dublin Cathedral has given up the name of its Italio-Spanish architect—one John. An inscription long misunderstood, and long preserved and traditionally honoured, has been translated by modern students of Norman French. An illustration of the inscription was thrown upon the screen; the translation runs thus: "John, the master builder of the brotherhood of Parma, and Dame Ramez Perez of S. Salvador of Asturias;" and another hand has added: "His wife and all his family who died in this land lie here." It is to this masterly John that the unique plan of Christchurch may be ascribed. A fair remnant of his church survives in the transept and part of the sanctuary.

"Strongbow, having died, was buried in the lines of the then unbuilt nave, and so lies until this day. Comyn, who succeeded Laurence O'Toole, on his arrival in Ireland, did not take kindly to his metropolitan church and its independent clergy. He thereupon conceived the idea of a new and grand church, a collegiate church, destined to be *the* cathedral. He adopted an ancient church of St. Patrick de Insula as a nucleus, and apportioned and mapped out the manses of his coming dignitaries, but did not build any part of St. Patrick's now visible. The building is from thirty to sixty years later." The lecturer having described the building of and materials used in Christchurch, said that its records were an epitome in illustration of Dublin history, of its Danish origin, its Anglo-Norman possession, of the Protestant Reformation in Ireland under Queen Elizabeth, the rule of Queen Mary, of Oliver Cromwell, of James II.

and the Revolution, of the Huguenot immigration after the Revocation of the Edict of Nantes, which brought the arts, chief industries, and commercial enterprise into Ireland. The cathedral treasures were buried and its architecture obscured for centuries, awaiting their resurrection in 1886. St. Patrick's was in a similar plight until 1864. There was another mediæval church of which remains survived, St. Audoen's, within the City walls. In conclusion, the lecturer pointed out that the parish names within the walls, as St. Audoen or Owen, St. Werburgh, St. Michael and St. John, and St. Andrew indicate English fashion and connexion. Those without the walls, St. Patrick, St. Bride (or Bridget), and St. Kevin indicate Irish sympathies. The suburbs are mostly in association with Danish Dublin.

On the motion of Sir Henry Howorth a vote of thanks to Sir Thomas Drew for his address was unanimously carried.

Mr. J. T. Micklethwaite said he did not quite agree with the lecturer's remarks anent the inscription found in Christchurch Cathedral. There was absolutely no suggestion thereon that John of Parma was the architect of the building, only that he and his family were buried there.

Optical Illusions in Mediæval Architecture.

Mr. G. Coffey then delivered an address on "Optical Illusions in Mediæval Architecture." The lecturer said these illusions, which were thought to be peculiar to Classic architecture, were discovered in Romanesque architecture by Professor Goodyear, of New York, in 1894, and in 1895 he brought these facts before the British Association in Liverpool. The Professor's statements were received with some scepticism at first, but after doubtful cases were ruled out there was a residuum which showed there was some truth in the matter. The subject was certainly important, and was perhaps more deeply thought of on the Continent. In any further work on church plans these principles revealed by Mr. Goodyear must be considered. The curved lines of the Parthenon were well known. Vitruvius wrote in the time of Augustus that a stylobate should not be horizontal, but should rise from the ends to the centre. The capitals of the columns should not be in a straight line, but should rise in proportion to the curve of the stylobate.

Pennethorne in 1833 went to Egypt, and found that the lines of the inner court of the Temple of Medinet Habou were not straight. There was a curve of 4¼ in. in 104 ft. on two sides, and 8 in. in 80 ft. on the other two. This discovery reminded him of the remarks of Vitruvius, and he afterwards looked to this in Athens. He did not publish his discoveries at the time, and in 1846-47 Mr. Penrose measured these curves. The lines of Egyptian temples curved on plan, those of the Greeks in elevation. The Temple of Neptune at Pæstum has curves on plan at the sides and in elevation on the pedimental ends.

Professor Goodyear went to Egypt in 1892, and verified the curves in other temples as at Luxor, Karnac, and Edfou. He also noted that the Maison Carrée at Nimes had a curve on plan of 5 in. in the length of the building. This established the theory that the curves were in provincial Roman work as in Greek. He next studied the Italian early churches, and found a similar state of things existing. In fact the buildings had all received, as it were, a freehand touch, which, though almost imperceptible, softened the geometrical outline.

These differences were often put down to error in setting out or of execution, but from accurate measurements it was found that the two sides of the Parthenon only differed by $\frac{1}{16}$ in. Mr. Coffey then, by means of numerous photographs thrown upon the screen and by diagrams, demonstrated his theories. He showed the three chief refinements adopted by mediæval architects, viz., the horizontal curve, the leaning front, and the diminishing arcade from the west end to the choir.

A vote of thanks to the lecturer terminated the proceedings.

The second day was devoted to visiting places of archæological interest round Dublin. The members assembled early at the Shelbourne Hotel and drove to Swords, where they inspected the Round Tower, which is in excellent preservation, and the ruins of the Archbishop's Palace close by. The latter covers a large area, but very little is left standing. Both the tower and the ruins were described by the Rev. Canon Twigg. The party then drove to Malahide Castle, where they were received by Mr. Dillon, agent to Lord Talbot de Malahide, and the Rev. Mr. Lindsay, the rector. Having viewed the fine collection of family and other pictures in the Castle, they proceeded to the ruined Abbey Church, in which is the tomb of Maud Plunkett, "maid, wife, and widow on the same day." The visitors then drove to St. Doulough's Church, and spent much time in that interesting building. It is small, but is two stories in height, having a stone roof of steep pitch, and service is still held therein. The party next saw St. Doulough's Well, an octagonal building, also stone roofed, the well being in the centre. They then proceeded to St. Doulough's Park, where they were entertained to tea by Mr. Hone, who showed them over the house and gardens. After a very pleasant day they returned to town, the few showers which fell having in no way interfered with the carrying out of the programme. In the evening the Royal Irish Academy and the Royal Society of Antiquaries, Ireland, gave a *conversazione* in the Science and Art Museum in honour of the visit of the Institute.

In the Central Court there are many valuable examples of architectural work and sculpture, which were of considerable interest to the visitors. The relics, such as the Ardagh Chalice, the Shrine of the Bell of St. Patrick's Well, the Tara Brooch, and the Cross of Cong attracted much attention. Mr. George Coffey described the most important contents of the Irish Section. The band of the Royal Irish Constabulary played various selections during the evening, and added much to the enjoyment of the guests.

A more extended excursion to Trim and Tara was arranged for the third day. The violent storm which broke over Dublin in the morning did not deter the members from joining in the trip, as a party of close upon one hundred left the Broadstone station at 9.30. On arriving at Trim it was found that the rain was over, and the roads were in a most favourable condition for driving. The first point of interest selected was Newtown Trim and the ancient Abbey of SS. Peter and Paul, a short distance away. This building dates from the early thirteenth century, when it was founded by Bishop Simon Rochford, who adopted the title of Bishop of Meath. The ruins have been sadly neglected. In the little parish church adjoining is a fine altar tomb with effigies of Sir Lucas Dillon and his wife. The party, having carefully inspected the Abbey under the guidance of the Rev. Canon Healy, returned to Trim, and were conducted to the parish church, in the ruined chancel of which are some interesting slabs and monuments. The building was erected in 1449 by the then Lord Lieutenant, and has a picturesque ivy-clad tower. The nave and chancel are of modern construction, but some of the earlier fragments remain. The next visit was paid to King John's Castle, founded in 1170 by Hugh de Lacy, who came over in the reign of Henry II. The Rev. Canon Healy gave a descriptive account of the ruin and its history, and that of the adjoining building, St. Mary's Abbey. At the conclusion of the Rev. Canon's remarks, Sir Henry Howorth returned thanks on behalf of the visitors.

After luncheon in the Courthouse, the party visited the Hill of Tara, where Mr. Robert Cochrane read a number of extracts descriptive of the spot. According to the chronology of the Four Masters, the Hill was first used as a Royal residence in the year 80 B.C., and was so used for 533 years. The speaker referred to the excavations carried on by Mr. Groom in search of the Ark of the Covenant. The results of the work were few, whilst the damage done to the King's chair was great. On the property belonging to Earl Russell nothing was allowed to be touched unless under archæological supervision, but Mr. Briscoe, the other owner, had given Mr. Groom his own sweet will with the place.

Sir Henry Howorth, in proposing a vote of thanks to Mr. Cochrane, said that as President of the Institute he protested with all the emphasis he could command against the great archæological crime of which they were witness. It was perfectly monstrous that custodians of property should tolerate such a thing as had been done here. They were standing in the presence of the greatest act of vandalism that had occurred in his long memory.

Sir John Dillon, having shown a few sketches and photographs he had made during the progress of the excavations, the party drove to Kilmessan station for Dublin.

A conversazione was given in the evening by the Lord Mayor and Lady Mayoress, at the Mansion House. In the Lord Mayor's absence Alderman Flanagan and his daughter received the guests. Many ancient Corporation documents were exhibited, the illumination of some examples exciting much admiration. The chief object of attention, however, was the gold cup recently presented to the city by the Queen as a memento of her visit. The guests were most hospitably entertained, and a very pleasant evening was spent.

The early part of Saturday morning was devoted to the annual business meeting, and it was almost noon before the members assembled for an excursion to a number of interesting buildings in the city.

The party first proceeded to Christ Church Cathedral, where they were welcomed by the Dean, and afterwards were conducted round the edifice by Sir Thomas Drew, the cathedral architect. Many of the points raised in his paper of the preceding Wednesday were here explained. After briefly describing the history of the building, from its foundation by Sigtryg in 1038 to its restoration by Street in 1880, Sir Thomas Drew led the party into the crypt, where an animated discussion was raised over the "master builder's stone" and its curious inscription. Sir Henry Howorth thanked Sir Thomas Drew, on behalf of the visitors, for his interesting description of the building, and said how thankful archæologists should be that the cathedral had attracted the attention of Mr. Roe, who gave the money, and Mr. Street, who had restored it.

In the afternoon, at four o'clock, the members drove to the Royal Hospital, Kilmainham, where they were received by Captain Fielding, and proceeded first to the great hall, where there is a magnificent display of armour and ancient arms. The library of the seventeenth and eighteenth century books was pointed out, together with the original charter of the hospital, granted by Charles II., subsequently lost in 1688, and not refound until 1848.

The chapel, opening out of the great hall, was next visited, and its ornamental iron gate (supposed to have been presented by Queen Anne), and the stained glass window attracted much attention. This window originally stood in the gable of the monastery of St. John, and had been there for eight hundred years. The angles of the chancel contain some fine oak carving by Grinling Gibbons, and the ceiling is ornamented with some masterly designs in stucco by Cipriani. The President, in thanking Captain Fielding for his reception of the party, said he hoped that conservative Ireland would not follow the example of revolutionary London, and injure the old hospital, the only really old one that remained intact.

The members then drove to the Record Office, where they inspected the old manuscripts which are there carefully treasured, and thence to the Four Courts and the Custom House, where they were received by the Chairman of the Board of Works, Mr. Robertson, and Mr. R. Cochrane. Some fine volumes of photographs were here shown the party. In the course of the visit the chairman stated that the Board had in their care the Ancient and National Monuments of Ireland, under the Church of Ireland Act, 1867, the Ancient Monuments Protection Act, 1882, and the Ancient Monuments Amendment Act, 1892.

Ancient Irish Records.

The Historical Section opened in the evening at the rooms of the Royal Irish Academy. The President, Sir Henry Howorth, took the chair at 8.30, and called upon Dr. Joyce to read his paper upon "The Truthfulness of Ancient Irish Records."

Dr. Joyce said that he proposed to prove that the ancient Irish records—at all events from the fourth century—were absolutely trustworthy. Of these records there were many classes, of which he would deal with three—historical and romantic tales, annals, and genealogies. Modern writers had to depend on statements of writers of the middle ages, whose testimonies were of the same character as Irish tales, a mixture of truth and fable. All mediæval writers believed in charms and magic, and mixed up these beliefs in their writings, and these had to be weeded out.

"Historical Tales," from the eighth to the ninth century, and even to recent times, had truth and fiction intermingled; the latter gene-

rally introduced for embellishment. These formed part of Irish history, and had been incorporated in the same manner as Hume used them, by sifting out unimportant matters. With regard to the "annals," there were annalists from the fourth or fifth century who made it their business to record notable events, and who recorded but few events which did not occur in their own lifetime, or had been actually witnessed by their predecessors. The result was that their records were the most trustworthy in Europe. A noted annalist was Tigernach O'Brien, 1088 A.D., who wrote in Irish and Latin.

The genealogies would naturally be most trustworthy, as upon their correctness important points of law and possession often turned.

The chief tests of the accuracy of these writings were three:—References to physical phenomena, as eclipses, &c.; testimonies of foreign writers; and consistency of the records amongst themselves. With regard to the first series of tests he would mention the solar eclipse of 664 A.D., which was recorded by the Venerable Bede as occurring on May 3. In the "Annals of Ulster" it was recorded as May 1, and scientists had proved the latter right. In the whole of the annals, extending from 490 to 1066, there were twenty-five records of eclipses, and modern astronomers found they were all accurately dated. An incident noted in the wars of the Gaels with the Gauls was worthy of notice. In an account of the battle of Clontarf (April 23, 1014), the writer stated that the fight raged from sunrise, when the tide was full, until the tide was yet again full. This statement was merely introduced to explain the great slaughter of the Danes, who were unable to return to their ships. Dr. Todd, when editing the book, went to some trouble to check this statement, and found from scientists that the tide actually was full at 4 a.m. on that morning. The lecturer next instanced many examples of foreign writers corroborating the Irish analysts, and of the consistency of Irish records amongst themselves. In conclusion, Dr. Joyce said the more ancient records were examined the more correct they proved to be, and it was instructive to mark the sober and respectful tone of modern writers in dealing with the Irish annals, only broken by bursts of admiration when some new and totally unexpected proof of their accuracy revealed itself.

Sir H. Howorth, in thanking Dr. Joyce for his admirable paper, said that Anglo-Saxon chroniclers from 857 to 885 were three years wrong in their chronology. Whenever this period was dealt with in the "Annals of Ulster" no error was found. Dr. Munro, Mr. G. Coffey, Mr. O'Neill Russell also spoke, and the meeting terminated with a hearty vote of thanks to the lecturer.

Sunday having been left free in the programme, the members of the Institute spent the day in the city. On Monday morning the party assembled at Amiens-street Station, at nine o'clock, and proceeded by train to Kells. Carriages were in waiting, and the visitors drove to Cairan, where are situated St. Kieran's Well, the Termon Crosses, and the Ogham Stone, all of much interest. After lunching at the Court-house at Kells, the rest of the afternoon was devoted to inspecting the antiquities in the neighbourhood, including the Round Tower and Crosses. There are four of the latter—one in the town and three in the churchyard. St. Columba's House was also visited. There is a semicircular vault over a portion of this building, and between the arch and the roof is an apartment, 6 ft. in height, which appears to have been originally divided into three. The larger of the divisions was lighted by a small aperture in the east end. In this chamber is a flat stone, 6 ft. long, known as St. Columba's bed. The various points of interest were described by the Rev. Canon Healy, the Rector of Kells.

In the evening the Antiquarian Section met at the Royal Irish Academy, the Vice-President of the section, Mr. E. W. Brabrook, in the chair. There was a very large attendance. The Chairman said he wished to express their thanks to Sir Henry Howorth for his outspoken words of protest on the Hill of Tara. He hoped they would see some legislation which would prevent such misdeeds in the future.

Signs of the Zodiac, Muredach's Cross.

Miss Margaret Stokes read a paper on "The Signs of the Zodiac on the base of Muredach's Cross, Monasterboice." She said that the representations of figures associated with groups of stars were almost constant ornaments of ancient religious edifices. Mr. Fowler had shown, in an eloquent passage in the conclusion of his essay on "Mediæval Representations of the Months and Seasons," that such subjects in Christian ecclesiastical architecture had a mystic and symbolic importance. The churches were to be the books of the unlearned, as St. John Damascene had said of sculptured images. The "Speculum Naturæ," beginning with the creation of the world, included the subject of the zodiacal representations, a subject which manifested the enthusiasm and love of Nature, and the delight in God's works that formed a most important moral element in the Gothic mind. The signs were as naturally associated with the actions of the every-day life of our forefathers as the months and days of the year were with our own, and as naturally suggested to the devout the duties and obligations of the seasons, when that, for instance—

> "the yonge sonne
> Hath in the Ram his halfe course i-ronne."

The first volume of the "Ancient Laws of Ireland" told how the King of Heaven ordained the procession of the sun through the twelve signs. The next Irish authority upon the signs was four centuries later, and the third extract was from an astronomical tract in the Academy library about 400 years old. In the Byzantine painter's guide was told how to represent the elusive seasons through life. The method was to show the sun passing through the signs of the zodiac. In early Christian basilicas it was customary to ornament the building with calendars of stone, and these were, or were until recently, to be found at Aosta, Ainay, Lyons, and St. Remi. Mr. Fowler, in his works, gave many representations of these calendars up to the fourteenth century, but had omitted the Irish one in the library of Basle. Miss Stokes explained very fully, by means of drawings, the various characters of this curious calendar, each of the twelve signs having its name upon it, accompanied by the name of a pagan god, a Jewish tribe, and an Apostle. A similar occurrence was found in the paintings of Giotto in the Hall of Padua, where an Apostle presided over each month. The manuscript of Basle was probably of the eighth century. A century and a half later the Bishop of Monasterboice carved the base of the high cross at that place. No effort had been made to discover what the various figures represented until recently. Miss Stokes said she had been able to trace on the eastern and northern sides of the cross, which were the best preserved, the zodiacal signs of the spring and winter months—Aries, Taurus, Gemini, Sagittarius, Capricornus, and Aquarius. The western side was greatly ruined, but by comparison with earlier works she had been practically able to trace the remainder of the months. The lecturer exhibited many drawings and rubbings of these carvings, which attracted much attention from the audience. Miss Stokes, in conclusion, said that the zodiac most corresponding with that of Monasterboice was to be found in mosaic at Piacenza. Although the reading she had given of the friezes might not be a true one, yet two sides were so clear that she felt she could rightly consider the other sides were carved to finish the twelve zodiacal signs. The lecturer then quoted the works of Dante, Chaucer, Spenser, and Shakespeare in reference to the subject.

Mr. E. Brabrook proposed a hearty vote of thanks to Miss Stokes for her valuable paper, and Sir Henry Howorth and Mr. J. T. Micklethwaite also spoke. The resolution was unanimously passed, and as the hour was late, Mr. J. R. Garstin postponed the reading of his paper upon "Some Antiquities of Drogheda." Miss Stokes subsequently explained many drawings of Irish crosses which were exhibited on the walls.

On Tuesday, the 24th, about eighty members assembled at Amiens-street Station to visit Drogheda, at which town they arrived at 9.50. The party immediately drove to Monasterboice, where much time was spent in minutely examining the old Celtic crosses, which are the best specimens of their kind in the country. Mr. G. Coffey, Curator of the National Museum, gave a lucid description of the carvings on the principal cross of Muredach. The members were much impressed with the clear reading of the sculpture at the base, which had been set forth by Miss Stokes in the preceding evening's paper. The other monuments and the Round Tower were next inspected, and the party then proceeded by road for Mellifont Abbey, which they reached at 12.30.

The Abbey is situated in a valley on the banks of a small stream, known as the Mattock, a tributary of the Boyne. The name Mellifont implies "sweet fountain," or "honey fountain." The Abbey was founded about the year 1141 by St. Malachy, Archbishop of Armagh, afterwards martyred at Tyburn. The members having assembled at the ruins, Mr. Anthony Scott, of Drogheda, at the request of the President, gave a description of the excavations and general architectural features of the monastic buildings, of which the baptistry and chapter house are in excellent preservation. Mr. J. T. Micklethwaite and Mr. C. R. Peers, hon. secretary of the meeting, also contributed a few remarks. After examination of the many relics stored in the chapter house, the party left for Dowth. During the drive the visitors passed through Townley Hall demesne, the residence of Mr. B. T. Balfour, who showed them an ivory-handled sword said to have been used by King William III. at the battle of the Boyne. Having proceeded along the beautiful valley of the Boyne and reached Dowth, Mr. Coffey gave a short description of the stone markings which are found on the unhewn slabs forming the roof and sides of the caves and passages leading thereto. He compared these markings with those found in Scandinavia of the bronze age, which are of similar character and design, differing entirely from those found in the neighbouring and superior mound and caves of New Grange. The President brought an interesting day's proceedings to a close by a pithy and lucid description of this class of antiquities met with in the United Kingdom and the Continent. The party then drove back along the Boyne valley to Drogheda, and returned to town by the 5.25 p.m. train.

The concluding meeting of the visit was held in the rooms of the Royal Irish Academy at 8.30 in the evening. Sir Henry Howorth presided, and moved a vote of thanks to Lord Rosse, president of the meeting, who had done so much for science in his own land. The motion was seconded by Dr. Munro and carried with applause.

The Chairman next proposed a vote of thanks to the Lord Mayor of Dublin for his reception of the Institute and the hospitality offered by him and the Corporation on the occasion of the visit. In no city of the Empire had he witnessed such marked progress during recent years as in Dublin, and nowhere would architects find finer sites for their buildings. The motion was unanimously passed.

The thanks of the Institute were also offered to the various bodies who had assisted to make the visit so profitable, and to those ladies and gentlemen who had read papers and acted as guides on the various excursions.

Finally, Mr. Rice proposed that a hearty vote of thanks should be passed to Mr. E. Green, the director, and Mr. C. R. Peers, the hon. secretary of the meeting, upon whose shoulders all the responsibility and work had fallen. The motion was carried amidst hearty applause, and the gentlemen having replied, the proceedings terminated.

The last day of the meeting was devoted to a trip to Glendalough, the home of St. Kevin, where the remains of seven churches and a Round Tower are to be found. The party left Harcourt-street Station at 10.10 a.m., and proceeded by rail to Rathdrum, where they were met by cars to convey them to their destination. The drive of seven miles, in the most beautiful part of county Wicklow, was much enjoyed, the route being through the Vale of Clara. On arrival at Glendalough, lunch was served at the Royal Hotel, after which the members explored the many interesting ruins in the neighbourhood. A small stone-roofed building, locally known as St. Kevin's kitchen, attracted much attention, the apex of the roof at one end being finished with a small round tower, a feature but rarely found in Irish work. The churches are in a ruined state, that of St. Saviour, by the roadside, being in the best preservation. This church has two naves, separated by a wall running the length of the building. The Round Tower is one of the loftiest in the country and is well preserved. The detached fragments of stone found in the neighbourhood and other relics are stored in St. Kevin's kitchen, and these were closely

inspected. The party having driven again to Rathdrum, returned to Dublin at 7.30.

This excursion closes this year's meeting, which judging from the various expressions let fall by the members, has been one of great interest and enjoyment. The weather, with the exception of a few showers, was all that could be desired; and it is to be hoped that the Archæological Institute, having now broken comparatively fresh ground in Ireland, will shortly return to finish what they have begun. In the north, south, and west of the island are many buildings of interest to the archæologist and antiquarian, and the excursion of the past few days has dealt with but a small district in the east.

THE ANNUAL EXCURSION OF THE ARCHITECTURAL ASSOCIATION:

Bury St. Edmunds.

AFTER a lapse of sixteen years the Architectural Association are again visiting the ancient county town of Bury St. Edmunds, and, although the ground to be covered is almost precisely the same as on the former visit, none of those who were then present appear otherwise than well pleased to revisit the old scenes.

The members, as usual, assembled on Saturday and Sunday in preparation for the week's work, a good many going down from London by the train and reserved compartments arranged by the junior Hon. Secretary, Mr. A. W. Hemmings.

On Sunday the usual informal programme was followed, a quiet morning partly in church and partly in the Abbey grounds; in the afternoon a party drove out in a direction not included in the official programme, and visited first of all the Church of St. Mary, Rougham, remarkable for its exceedingly fine western tower, the excellently preserved hammer-beam roof of the nave, and the magnificently carved benches. The tower is of considerable height, simple and broad in treatment, well proportioned in mass, with its ornament concentrated in flint panelling and battlements at the top, the only blemish in the design being perhaps the smallness of the belfry windows and the too great amount of wall above them. The nave roof is of good hammer-beam treatment, ornamented by carved angels with folded wings, and niches on the wall posts still filled with figures, albeit these are now headless.

The chancel, with a good reticulated five-light east window, and the south porch, with excellent side windows of somewhat unusual form, are of the Decorated period, and therefore of earlier date than the nave, the aisles, and the western tower. Other features worthy of notice are the battlemented parapets, with alternate carved and pierced merlons, the simple but very effective roof of the south porch dated 1632, and an interesting and well-drawn brass to Sir Roger Drury and his wife, the date of the latter's decease, September 4, 1405, being engraved on the brass, but that of the squire, who died in 1418, being left blank.

The next halt of our party was made at Hessett, where is another interesting church dedicated to St. Ethelbert, again with a good western tower, not perhaps equal to that at Rougham, but still vigorous and sturdy, and with a fine battlemented parapet and band of panelling below. The south porch is very charming, with three canopied niches and flint panelling. The chancel has suffered from restoration in a very thin spirit, the more distasteful by comparison with the sturdy character of the old perpendicular building. There is an interesting chantry chapel built by "John Hog and Katryne hys wyf" on the east end of the north aisle. The battlemented parapets here show a variation in design, with alternate open and pinnacled merlons. Internally there is much to note and study, a rood screen with the type of colour scheme, although restored by inexpert hands, that marks Early Fifteenth Century work, and some remains of tooled gesso not of high-class workmanship. The chancel floor is below that of the nave in level, a treatment not uncommon, or at any rate not without numerous correlative instances, some of which have been wiped out in restoration. The original roofs remain to nave and aisles, and are of simple treatment. There are remains of old frescoes, and numerous fragments of good old glass. The font is a good example of the favourite Suffolk type. The greatest curiosity, however, is a fine lace chalice veil and burse found in an old chest and preserved in the vestry. In the churchyard is a fragment of the ancient cross.

From Hessett the party proceeded to the objective of the drive, Woolpit Church, another mainly Perpendicular work, the chief beauty of the exterior of which is the magnificent south porch, vaulted below and with parvise, or perhaps more strictly a cell, over. The clearstory is graceful and modest in stone and flint, panelled and chequered. The west tower and spire are modern and bad in detail, though fair in outline. Internally is the very fine hammer-beam roof, with wide-spreading winged angels, that is a Classic type in our national architecture. The screen has been a fitting companion to the roof, but appears to have been rebuilt, modified, and not beautified in the year 1750, the date inscribed. A fine old brass lectern is, perhaps, due to the zeal of the same period. The nave pews are excellent examples of the Suffolk type of carved fifteenth-century benches. The chancel has suffered from zeal without knowledge, particularly in the conception of the east window, a small reticulated five-light collection of absolutely awful glass.

On the way back to Bury a slight detour was made for the sake of a glance at Elmswell Church, with its grand west tower, worthy of study for its beautiful parapet of flint and stone and good belfry windows. Here is an excellently-restored churchyard cross with remarkably beautiful ancient base. A curious example of clerical spite is the large house and lodge built by a former incumbent, and tarred all over from ridge to ground line by him on leaving the parish in high dudgeon.

Monday.

By Monday morning the number of excursionists had risen to its normal level, and a start was made in the regular work of the week. A cloudy sky gave the old hands an opportunity of lecturing the novices on the advisability of always carrying a waterproof garment on an Architectural Association excursion. The new chums, however, smiled serenely on their return in the evening after a beautifully fine day, the sun's heat tempered by occasional clouds and pleasant breezes. Sun, clouds, and breezes were all alike gentle, and hence the climatic conditions as perfect as could be expected in July. With the wisdom born of experience the secretaries had arranged the first day's programme to be wholly a driving day, and so carriages were taken for the first journey to Pakenham Manor House, picturesque with its triple gables of curved outline and semi-octagonal porch, its red brick walls and chimneys, and its mullioned windows. The said windows and other features have their dressings apparently of stone, but really of Roman cement, even the date—1622—over the front door being in this material. This work is palpably palimpsestic, but probably follows with sufficient fidelity the not uncommon East Anglian rendering of the stone type of mullioned window, usual in the sixteenth and seventeenth centuries, wherein the features are executed in brick, covered with a thin coat of stucco. The windows have casements of a later type than 1622, possibly coeval with the Roman cement, say, at a guess, 1822; the porch windows are even later, double hung sashes with thin bars. Still, these little vagaries do not utterly spoil the charm of Pakenham Manor House. Internally there is not much old work remaining, a massively treated stair balustrade and some panelling from an evidently older house being almost the only instances. The church at Pakenham has an octagonal tower on a square base over the crossing of its cruciform plan, but its artistic interest is greatest at a distance. There are, however, for the archæologically disposed, a couple of late Norman doors and a good font of the usual Suffolk type.

Leaving Pakenham with pleasant memories the party drove on to Ixworth, where the church was set down for study—a simple, unobtrusive, and good example of East Anglian Perpendicular treatment. Of the remains of the Augustinian Priory founded by Gilbert de Blund in 1100 scarcely a vestige now remains, the church belonging to the times of the ascendency of the Abbey at Bury, the tower being attributed to Robert Schot or Coote, who was abbot at Bury in 1470. This tower, western as usual, is built of flint and stone, the buttresses freestone faced with incised panels decorated in flint flakes. The parapet and band below are excellent, and there are a couple of curious enamelled tiles, each 11 in. square, built into the wall, the inscription on which is now all but illegible. The porch is in accord with the rest of the design, simple and good. Within we see the old flat-pitched roofs of nave and aisles, whose adorning angels have very highly conventionalised wings. In the chancel—which has suffered, the church having been restored in 1854—is a curious tomb of Richard Coddrington, who died in 1567, and to whom the priory was given by Henry VIII.

A short drive from Stow took the party to Norton Haugh for the final work of the day. Here the hall, an eighteenth century house with very excellent internal work, formed the *pièce de resistance*. Well cared for and kept up by Mr. Gurney, the banker, whose residence it is, and furnished with a remarkable collection of paintings and engravings of the date of the house, this proved a great treat, not lessened by the charming garden or the hospitality of the owner. Most of the party visited the church, a modest example of the local Perpendicular work, with fragments of stained glass, a few old stalls and benches, hollow octagon shafts to the nave, and, unluckily, a new roof by a local builder and architect. This concluded the day's programme, and the party then returned to Bury St. Edmunds.

Tuesday.

The morning gave promise of a fine and possibly warm day and the promise was not belied, yet still a pleasant breeze tempered the heat, and with due regard to a selection of shady spots, the day turned out a perfect one for excursionising. As the *locale* of the day's proceedings was in the southern borders of the county of Suffolk, a railway journey to Stoke by Clare was the first item, then came a pleasant drive of some three-quarters of an hour, passing the county boundary and landing the excursionists over the Essex border at the striking and remarkable seventeenth-century house of Moyns, whose front is of the type that Mr. Ernest George has repeatedly adopted for the modern large country house. Exquisitely proportioned, simple in form, restrained in detail, Moyns on its entrance front is entirely admirable. Four gables in three stories, the outer ones wider and higher than those intermediate, and between the gables three semi-octagonal two-story bays, with the entrance in the centre, plain but perfectly proportioned mullioned and transomed windows, are all the features, but the dignity and breadth, due in considerable measure to the extreme distance of upper sills from lower window heads, is indescribable. Red brick in masses, stone, or rather stucco simulating stone, in the window mullions, transomes, and jambs, with never a moulding beyond a simple label, Renaissance, of course, in form, are all the material elements of the design; proportion is the spiritual essence. At the rear of the house on the back elevation are some of the finest examples of cut-brick chimneys with octagonal shafts and moulded caps concave on plan that East Anglia can show. On this front red brick is practically the only material, and a little play of fancy in outline has been permitted to himself by the able designer. Internally, beyond the dignity and lofty proportions of the rooms, there is not much to remark save some most admirable brass fire-dogs, which partake in character of the general feeling of the design. Mention must be made of the older house in half-timber and red brick, a sixteenth century building, which now looks small and dwarfed into insignificance by the stately pile in front of it, but which with its excellent composition and well-carved barge boards is of itself worth a long journey to see. The garden, with its old-world flowers and fragrance, though by no means posing as a formal creation in the eighteenth century manner, is yet very charming and sufficiently formal, with all its lack of pretension, to be completely in sympathy with the house. Altogether a more perfect conception of dignified homeliness than Moyns it would be difficult to find.

Leaving Moyns, after lunch, with regret, a hot drive took the party to Clare, where the church of S.S. Peter and Paul was first visited. This is a grand example of the open and well-lighted town church of the Perpendicular period, almost too well lighted to-day with white glass, instead of stained, and no colour decoration. A six-bayed nave and aisles to the chancel with north and south porches and western tower open by a great arch to the nave form a strikingly open interior. The

detail is somewhat late and lacking refinement, but the treatment of the nave arcade with moulded, embattled, and carved string course above the arches, and vertical lines carried up to the wall poster of the roof with the lofty clearstory, forms a striking and admirable treatment. Collected in the east window are some very charming fragments of old glass of heraldic character. The old screen has disappeared, unless some remains which now form a private pew are part; these, however, do not seem of sufficient importance or character to have been part of a wood screen, and, although beautiful in detail, are more likely to have been part of a chantry or side screens. The notorious Dowsing has been at Clare, and records his vile work of destruction. Very excellent are the carved doors of the church from the north and south porches, which as detail are far more satisfactory and less debased than the mason's work of the church. A beautiful eagle lectern was presented by Queen Elizabeth, and is said to have been made from the guns of the Spanish Armada. This may be so, as the metal is of peculiar beauty, and is an alloy of different character to ordinary brass. Also from the Spanish Armada, and presented by Queen Elizabeth, is said to be the beautiful silver-gilt chalice. This bears every evidence of being Spanish work of sixteenth-century date, is of cast silver, chased, and with Renaissance detail and figure work that in its classicality is almost undoubtedly Spanish. Although the rood screen has vanished, some clergy stalls of Jacobean date, and now facing eastward, take its place and are interesting. Externally the design of the church is somewhat thin in detail, though the mass of the building saves it from insignificance.

In the town of Clare are several highly interesting old houses, one in particular with remarkable cut-brick chimneys, another with half timber treatment, partly in paint, of apparently Georgian date, and yet a third with the rude, yet piquant, modelled plaster (see lithograph), of which there is so much in Essex and Suffolk, on the border line of which counties stands the town of Clare.

This place, which is of great antiquity, derived considerable importance during the Saxon Heptarchy from being on the frontier of the Kingdom of East Anglia; and after the Conquest it was distinguished for having given the title of earl to the family of De Clare, and that of duke to Lionel, third son of Edward III., who was created Duke of Clarence, and who is said to have been buried in the church. To the south of the town are the ruins of a castle, formerly the baronial residence of the Earls of Clare, and equal to any of those structures in feudal grandeur and magnificence, but now a mere collection of mounds, although the site of the fortifications may be distinctly traced. These comprehend an area of thirty acres divided into an outer and an inner ward, of which the latter only was enclosed by walls; the whole was surrounded with a deep fosse. On the summit of a high mount, evidently of artificial construction, were within the present century the remains of the ancient keep, a circular building of flint, strongly cemented with mortar, and strengthened with buttresses, which, from its situation near the frontier, was supposed to have been erected either prior to or during the Heptarchy.

To the south-west of the town are the remains of Clare Priory, founded by Eluric, or Alfric, Earl of Clare, for secular canons, which Gilbert de Clare, in 1090, gave to the Benedictine Abbey of Bec, in Normandy, to which it was a cell till 1124, when his son Richard removed the monks to the village of Stoke. Joan d'Acre, daughter of Edward I., wife of Gilbert St. Clare, who was a great benefactress to this establishment, is traditionally said to have been interred in the chapel, which has been converted into a barn. The priory, now a private residence, though it has undergone considerable repairs and alterations, still retains much of its original character. A monastery for Augustine monks is said to have been founded in 1248, but by whom is not known. To the north-west of the town are evident marks of a Roman camp.

From Clare a short half-hour's drive brought the party to Cavendish. This village is situated upon the river Stour. It was the birthplace of John Cavendish, who, being in attendance upon Richard II., assisted Walworth, Lord Mayor of London, in slaying the rebel Wat Tyler, which the populace at this place having heard, they, under John Raw, a priest, and Robert Westbroom, seized his uncle, Sir John Cavendish, Lord Chief Justice of the Court of King's Bench, and beheaded him at the market-cross in Bury, with the prior of Bury; but Dr. Spencer, the warlike Bishop of Norwich, raised forces and slew many of them immediately after. The noble family of Cavendish, of which the Duke of Devonshire is the representative, derives its name from this place, which at an early period was in their possession.

The church at Cavendish is a very pleasing composition, and the more so by its position on high ground overlooking the village. Although a Decorated porch on the south side gives evidence of an earlier church, the main building, nave, aisles, chancel, and western tower are Perpendicular. The tower has at the south-east angle a stair-turret carried up above the battlements, a feature now seen for the first time on this excursion, and adding greatly to the piquancy of the design. Unusual forms in the tracery of the windows, a very well-designed priest's door, the excellent treatment of the buttresses, and the purity of the mouldings, are also points worthy of special notice. Though much smaller than that at Clare, in point of design and interest this village church shows remarkable genius and individuality on the part of the man who conceived the grouping and worked out the details of the building. Internally there is but little of interest, save for a fine brass lectern similar in detail to that at Clare, and the interior treatment of the priest's door already referred to. From Cavendish a six-mile drive to Long Melford Station and thence by train brought the excursionists once more back to Bury.

[The account of the excursion will be concluded in our next. Three of the plates in the present issue are devoted to sketches from various buildings on the line of route. The plates in our next week's issue will be devoted to further illustrations of the buildings visited.]

ROYAL ARCHITECTURAL MUSEUM AND WESTMINSTER SCHOOL OF ART.

THE annual general meeting of the above was held at the Museum, Tufton-street, Dean's-yard, Westminster, on the 20th inst., Mr. Aston Webb, A.R.A., presiding.

In their annual report the Council deplored the great loss the institution has sustained by the death of its President, the late Duke of Westminster, K.G., who manifested so keen and generous an interest in its welfare. They also recorded with deep regret the death of Sir Arthur Blomfield, A.R.A., a warm and liberal supporter of the Museum from its earliest days, who at the last annual meeting was elected one of the Vice-Presidents. The report proceeded:—

"The Council have further to record the loss which not only they, but all lovers of Art in its varied forms, have sustained by the death of Mr. John Ruskin, who was an early and enthusiastic supporter of the Museum, who enriched it by his gifts of examples of Florentine art, and on various occasions gave its supporters the advantage of his eloquent and learned disquisitions. The Westminster School of Art continues to justify its high reputation as one of the most important schools of art in the kingdom. In the examinations held in 1899 the students acquitted themselves satisfactorily, especially in the most advanced subjects. In drawing from the life no fewer than sixty-four students of this school sat for examination, with the following results, which are placed side by side with the figures for the whole of the United Kingdom:—

	Westminster School of Art.	United Kingdom.
Excellent	9	113
First class	17	225
Second class	29	770
Failed	9	419
Total candidates	64	1,527

It will thus be seen that in this School of Art 14 per cent. attained the highest award (excellent), against 7·4 per cent. for the kingdom generally, and that only 14 per cent. failed, against 27·4 per cent. Two of the students were bracketed third amongst the 1,527 candidates who sat for drawing from the life, and were awarded Queen's Prizes. In the national competition, in which all schools of art take part, the awards to Westminster students included the following:—

William Batchelor	Silver Medal for modelled design for a mirror frame.
" "	Bronze Medal for modelled design for a panel.
John Bart. Higgins	Bronze Medal for modelled design for a book cover.
" "	National Book Prize for modelled design for a finger plate.
Henry Jas. Strutt	Bronze Medal for modelled design for a panel.
Edgar G. Perman	Prize for design for surface decoration.
Isabel M. Smith ...	Prize for design for surface decoration.

Mr. Strutt's panel was afterwards purchased by the Department of Science and Art. In concluding their report the Council venture to hope that some recruits may be found to fill the constantly recurring gaps in the list of subscribers caused by the death of the early supporters of this invaluable Museum, unequalled as a repository of the choicest examples of Gothic architecture."

Mr. M. B. Adams, the Hon. Secretary, said he desired to make a few remarks on his own behalf. He had been associated with the Institution a great many years, and he was glad to say that impecuniousness was a thing of the past with it. They had, however, only been

inspected. The party having driven again to Rathdrum, returned to Dublin at 7.30.

This excursion closes this year's meeting, which judging from the various expressions let fall by the members, has been one of great interest and enjoyment. The weather, with the exception of a few showers, was all that could be desired; and it is to be hoped that the Archæological Institute, having now broken comparatively fresh ground in Ireland, will shortly return to finish what they have begun. In the north, south, and west of the island are many buildings of interest to the archæologist and antiquarian, and the excursion of the past few days has dealt with but a small district in the east.

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Monday.

By Monday morning the number of excursionists had risen to its normal level, and a start was made in the regular work of the week. A cloudy sky gave the old hands an opportunity of lecturing the novices on the advisability of always carrying a waterproof garment on an Architectural Association excursion. The new chums, however, smiled serenely on their return in the evening after a beautifully fine day, the sun's heat tempered by occasional clouds and pleasant breezes. Sun, clouds, and breezes were all alike gentle, and hence the climatic conditions as perfect as could be expected in July. With the wisdom born of experience the secretaries had arranged the first day's programme to be wholly a driving day, and so carriages were taken for the first journey to Pakenham Manor House, picturesque with its triple gables of curved outline and semi-octagonal porch, its red brick walls and chimneys, and its mullioned windows. The said windows and other features have their dressings apparently of stone, but really of Roman cement, even the date—1622—over the front door being in this material. This work is palpably palimpsestic, but probably follows with sufficient fidelity the not uncommon East Anglian rendering of the stone type of mullioned window, usual in the sixteenth and seventeenth centuries, wherein the features are executed in brick, covered with a thin coat of stucco. The windows have casements of a later type than 1622, possibly coeval with the Roman cement, say, at a guess, 1822; the porch windows are even later, double hung sashes with thin bars. Still, these little vagaries do not utterly spoil the charm of Pakenham Manor House. Internally there is not much old work remaining, a massively treated stair balustrade and some panelling from an evidently older house being almost the only instances. The church at Pakenham has an octagonal tower on a square base over the crossing of its cruciform plan, but its artistic interest is greatest at a distance. There are, however, for the archæologically disposed, a couple of late Norman doors and a good font of the usual Suffolk type.

Leaving Pakenham with pleasant memories the party drove on to Ixworth, where the church was set down for study—a simple, unobtrusive, and good example of East Anglian Perpendicular treatment. Of the remains of the Augustinian Priory founded by Gilbert de Blund in 1100 scarcely a vestige now remains, the church belonging to the times of the ascendency of the Abbey at Bury, the tower being attributed to Robert Schot or Coote, who was abbot at Bury in 1470. This tower, western as usual, is built of flint and stone, the buttresses freestone faced with incised panels decorated in flint flakes. The parapet and band below are excellent, and there are a couple of curious enamelled tiles, each 11 in. square, built into the wall, the inscription on which is now all but illegible. The porch is in accord with the rest of the design, simple and good. Within we see the old flat-pitched roofs of nave and aisles, whose adorning angels have very highly conventionalised wings. In the chancel—which has suffered, the church having been restored in 1854—is a curious tomb of Richard Coddrington, who died in 1567, and to whom the priory was given by Henry VIII.

A short drive from Stow took the party to Norton Haugh for the final work of the day. Here the hall, an eighteenth century house with very excellent internal work, formed the *pièce de resistance*. Well cared for and kept up by Mr. Gurney, the banker, whose residence it is, and furnished with a remarkable collection of paintings and engravings of the date of the house, this proved a great treat, not lessened by the charming garden or the hospitality of the owner. Most of the party visited the church, a modest example of the local Perpendicular work, with fragments of stained glass, a few old stalls and benches, hollow octagon shafts to the nave, and, unluckily, a new roof by a local builder and architect. This concluded the day's programme, and the party then returned to Bury St. Edmunds.

Tuesday.

The morning gave promise of a fine and possibly warm day and the promise was not belied, yet still a pleasant breeze tempered the heat, and with due regard to a selection of shady spots, the day turned out a perfect one for excursionising. As the *locale* of the day's proceedings was in the southern borders of the county of Suffolk, a railway journey to Stoke by Clare was the first item, then came a pleasant drive of some three-quarters of an hour, passing the county boundary and landing the excursionists over the Essex border at the striking and remarkable seventeenth-century house of Moyns, whose front is of the type that Mr. Ernest George has repeatedly adopted for the modern large country house. Exquisitely proportioned, simple in form, restrained in detail, Moyns on its entrance front is entirely admirable. Four gables in three stories, the outer ones wider and higher than those intermediate, and between the gables three semi-octagonal two-story bays, with the entrance in the centre, plain but perfectly proportioned mullioned and transomed windows, are all the features, but the dignity and breadth, due in considerable measure to the extreme distance of upper sills from lower window heads, is indescribable. Red brick in masses, stone, or rather stucco simulating stone, in the window mullions, transomes, and jambs, with never a moulding beyond a simple label. Renaissance, of course, in form, are all the material elements of the design; proportion is the spiritual essence. At the rear of the house on the back elevation are some of the finest examples of cut-brick chimneys with octagonal shafts and moulded caps concave on plan that East Anglia can show. On this front red brick is practically the only material, and a little play of fancy in outline has been permitted to himself by the able designer. Internally, beyond the dignity and lofty proportions of the rooms, there is not much to remark save some most admirable brass fire-dogs, which partake in character of the general feeling of the design. Mention must be made of the older house in half-timber and red brick, a sixteenth century building, which now looks small and dwarfed into insignificance by the stately pile in front of it, but which with its excellent composition and well-carved barge boards is of itself worth a long journey to see. The garden, with its old-world flowers and fragrance, though by no means posing as a formal creation in the eighteenth century manner, is yet very charming and sufficiently formal, with all its lack of pretension, to be completely in sympathy with the house. Altogether a more perfect conception of dignified homeliness than Moyns it would be difficult to find.

Leaving Moyns, after lunch, with regret, a hot drive took the party to Clare, where the church of S.S. Peter and Paul was first visited. This is a grand example of the open and well-lighted town church of the Perpendicular period, almost too well lighted to-day with white glass, instead of stained, and no colour decoration. A six-bayed nave and aisles to the chancel with north and south porches and western tower open by a great arch to the nave form a strikingly open interior. The

detail is somewhat late and lacking refinement, but the treatment of the nave arcade with moulded, embattled, and carved string course above the arches, and vertical lines carried up to the wall poster of the roof with the lofty clearstory, forms a striking and admirable treatment. Collected in the east window are some very charming fragments of old glass of heraldic character. The old screen has disappeared, unless some remains which now form a private pew are part; these, however, do not seem of sufficient importance or character to have been part of a wood screen, and, although beautiful in detail, are more likely to have been part of a chantry or side screens. The notorious Dowsing has been at Clare, and records his vile work of destruction. Very excellent are the carved doors of the church from the north and south porches, which as detail are far more satisfactory and less debased than the mason's work of the church. A beautiful eagle lectern was presented by Queen Elizabeth, and is said to have been made from the guns of the Spanish Armada. This may be so, as the metal is of peculiar beauty, and is an alloy of different character to ordinary brass. Also from the Spanish Armada, and presented by Queen Elizabeth, is said to be the beautiful silver-gilt chalice. This bears every evidence of being Spanish work of sixteenth-century date, is of cast silver, chased, and with Renaissance detail and figure work that in its classicality is almost undoubtedly Spanish. Although the rood screen has vanished, some clergy stalls of Jacobean date, and now facing eastward, take its place and are interesting. Externally the design of the church is somewhat thin in detail, though the mass of the building saves it from insignificance.

In the town of Clare are several highly interesting old houses, one in particular with remarkable cut-brick chimneys, another with half timber treatment, partly in paint, of apparently Georgian date, and yet a third with the rude, yet piquant, modelled plaster (see lithograph), of which there is so much in Essex and Suffolk, on the border line of which counties stands the town of Clare.

This place, which is of great antiquity, derived considerable importance during the Saxon Heptarchy from being on the frontier of the Kingdom of East Anglia; and after the Conquest it was distinguished for having given the title of earl to the family of De Clare, and that of duke to Lionel, third son of Edward III., who was created Duke of Clarence, and who is said to have been buried in the church. To the south of the town are the ruins of a castle, formerly the baronial residence of the Earls of Clare, and equal to any of those structures in feudal grandeur and magnificence, but now a mere collection of mounds, although the site of the fortifications may be distinctly traced. These comprehend an area of thirty acres divided into an outer and an inner ward, of which the latter only was enclosed by walls; the whole was surrounded with a deep fosse. On the summit of a high mount, evidently of artificial construction, were within the present century the remains of the ancient keep, a circular building of flint, strongly cemented with mortar, and strengthened with buttresses, which, from its situation near the frontier, was supposed to have been erected either prior to or during the Heptarchy.

To the south-west of the town are the remains of Clare Priory, founded by Eluric, or Alfric, Earl of Clare, for secular canons, which Gilbert de Clare, in 1090, gave to the Benedictine Abbey of Bec, in Normandy, to which it was a cell till 1124, when his son Richard removed the monks to the village of Stoke. Joan d'Acre, daughter of Edward I., wife of Gilbert St. Clare, who was a great benefactress to this establishment, is traditionally said to have been interred in the chapel, which has been converted into a barn. The priory, now a private residence, though it has undergone considerable repairs and alterations, still retains much of its original character. A monastery for Augustine monks is said to have been founded in 1248, but by whom is not known. To the north-west of the town are evident marks of a Roman camp.

From Clare a short half-hour's drive brought the party to Cavendish. This village is situated upon the river Stour. It was the birthplace of John Cavendish, who, being in attendance upon Richard II., assisted Walworth, Lord Mayor of London, in slaying the rebel Wat Tyler, which the populace at this place having heard, they, under John Raw, a priest, and Robert Westbroom, seized his uncle, Sir John Cavendish, Lord Chief Justice of the Court of King's Bench, and beheaded him at the market-cross in Bury, with the prior of Bury; but Dr. Spencer, the warlike Bishop of Norwich, raised forces and slew many of them immediately after. The noble family of Cavendish, of which the Duke of Devonshire is the representative, derives its name from this place, which at an early period was in their possession.

The church at Cavendish is a very pleasing composition, and the more so by its position on high ground overlooking the village. Although a Decorated porch on the south side gives evidence of an earlier church, the main building, nave, aisles, chancel, and western tower are Perpendicular. The tower has at the south-east angle a stair-turret carried up above the battlements, a feature now seen for the first time on this excursion, and adding greatly to the piquancy of the design. Unusual forms in the tracery of the windows, a very well-designed priest's door, the excellent treatment of the buttresses, and the purity of the mouldings, are also points worthy of special notice. Though much smaller than that at Clare, in point of design and interest this village church shows remarkable genius and individuality on the part of the man who conceived the grouping and worked out the details of the building. Internally there is but little of interest, save for a fine brass lectern similar in detail to that at Clare, and the interior treatment of the priest's door already referred to. From Cavendish a six-mile drive to Long Melford Station and thence by train brought the excursionists once more back to Bury.

[The account of the excursion will be concluded in our next. Three of the plates in the present issue are devoted to sketches from various buildings on the line of route. The plates in our next week's issue will be devoted to further illustrations of the buildings visited.]

ROYAL ARCHITECTURAL MUSEUM AND WESTMINSTER SCHOOL OF ART.

THE annual general meeting of the above was held at the Museum, Tufton-street, Dean's-yard, Westminster, on the 20th inst., Mr. Aston Webb, A.R.A., presiding.

In their annual report the Council deplored the great loss the institution has sustained by the death of its President, the late Duke of Westminster, K.G., who manifested so keen and generous an interest in its welfare. They also recorded with deep regret the death of Sir Arthur Blomfield, A.R.A., a warm and liberal supporter of the Museum from its earliest days, who at the last annual meeting was elected one of the Vice-Presidents. The report proceeded:—

"The Council have further to record the loss which not only they, but all lovers of Art in its varied forms, have sustained by the death of Mr. John Ruskin, who was an early and enthusiastic supporter of the Museum, who enriched it by his gifts of examples of Florentine art, and on various occasions gave its supporters the advantage of his eloquent and learned disquisitions. The Westminster School of Art continues to justify its high reputation as one of the most important schools of art in the kingdom. In the examinations held in 1899 the students acquitted themselves satisfactorily, especially in the most advanced subjects. In drawing from the life no fewer than sixty-four students of this school sat for examination, with the following results, which are placed side by side with the figures for the whole of the United Kingdom:—

	Westminster School of Art.	United Kingdom.
Excellent	9	113
First class	17	225
Second class	29	770
Failed	9	419
Total candidates	64	1,527

It will thus be seen that in this School of Art 14 per cent. attained the highest award (excellent), against 7·4 per cent. for the kingdom generally, and that only 14 per cent. failed, against 27·4 per cent. Two of the students were bracketed third amongst the 1,527 candidates who sat for drawing from the life, and were awarded Queen's Prizes. In the national competition, in which all schools of art take part, the awards to Westminster students included the following:—

William Batchelor	Silver Medal for modelled design for a mirror frame.
" "	Bronze Medal for modelled design for a panel.
John Bart. Higgins	Bronze Medal for modelled design for a book cover.
" "	National Book Prize for modelled design for a finger plate.
Henry Jas. Strutt	Bronze Medal for modelled design for a panel.
Edgar G. Perman	Prize for design for surface decoration.
Isabel M. Smith ...	Prize for design for surface decoration.

Mr. Strutt's panel was afterwards purchased by the Department of Science and Art. In concluding their report the Council venture to hope that some recruits may be found to fill the constantly recurring gaps in the list of subscribers caused by the death of the early supporters of this invaluable Museum, unequalled as a repository of the choicest examples of Gothic architecture."

Mr. M. B. Adams, the Hon. Secretary, said he desired to make a few remarks on his own behalf. He had been associated with the Institution a great many years, and he was glad to say that impecuniousness was a thing of the past with it. They had, however, only been

able to steer the ship through the storms by the aid of the School of Art. At the same time they must realise that the Museum was founded for a more specific purpose than to carry on the work of a general school of art, and he thought the time had arrived when they should consider whether it was not desirable, by enlarging the character of the collection and by making it more representative of architectural and artistic work, to bring back the Museum to its original purpose. It seemed to him that, with their new classrooms and the resources they already possessed, they might rely upon their architectural friends to rally around them. It would be far better if they could encourage young men, instead of going in for black and white — the ranks of which were already crowded—to take up the applied arts. That was the end he had in view, and if by retiring and allowing others to come forward he could facilitate this, he would be happy to do so. The financial statement was very gratifying. The School of Art yielded 1,765*l.* 16*s.* 3*d.*, making the year's total receipts 1,840*l.* 17*s.* 11*d.* There was a surplus of income over expenditure of 160*l.* 5*s.* 2*d.*

Mr. Seth-Smith (President of the Architectural Association) moved the adoption of the report and balance-sheet, and expressed a hope that the suggestion thrown out by Mr. Adams would be considered. He was sure there were plenty of examples in the Museum to engage the attention of their best draughtsmen. Gothic architecture was just now under a cloud, but he was convinced that the cloud was a temporary one. It was quite lamentable to hear students speak of the lack of opportunity to study Gothic ornament, and that all the art schools were giving attention to strict Classic work.

The Chairman, who seconded, said they were the inheritors of a great trust, the outcome of a wave of enthusiasm thirty or forty years ago. It was associated with the Gothic revival, and some of them well remembered the interest with which the casts were collected. Enthusiasm for this phase of art had undoubtedly been on the wane for some years, and young men were not to be found studying Gothic as they used to.

The resolution was adopted.

The Chairman next proposed that Mr. William Emerson, President of the Royal Institute of British Architects, be elected President. By electing Mr. Emerson they hoped that he would bring the Museum more closely in touch with the members of his great profession.

Mr. J. Hungerford Pollen, who seconded, said he regarded Mr. Emerson's election as the precursor of a great accession of strength to the Museum.

The motion was adopted unanimously.

Mr. Emerson, on succeeding Mr. Aston Webb in the chair, briefly returned thanks. He remarked that when he looked at the list of Presidents who had preceded him he realised how great was the honour that had been bestowed upon him. There had preceded him in that chair such eminent men as the late Mr. Beresford Hope, Lord Alwyn Compton, the Bishop of Ely, and the Duke of Westminster. He had very pleasant recollections of Mr. Beresford Hope when he (the speaker) was with the late Mr. Burges.

Mr. Sidney W. Lee moved the election of the following as Vice-Presidents, namely—Messrs. Aston Webb, A.R.A.; John Belcher, A.R.A.; G. F. Bodley, A.R.A.; G. Frampton, A.R.A.; Mr. J. P. Seddon; the Duke of Norfolk; the Duke of Rutland; the Marquis of Ripon; Earl Fortescue; the Earl of Wemyss; and Lord Grimthorpe.

Mr. Bell seconded the motion, which was agreed to.

Mr. Brindley moved the re-election of the Hon. Secretary (Mr. Adams) and the members of the Council, viz., the Earl of Wemyss; Messrs. Aston Webb, A.R.A.; G. Forster Hayward, F.S.A.; Sydney W. Lee, F.R.I.B.A.; Wm. Pain, F.R.I.B.A.; J. Hungerford Pollen; and J. P. Seddon, F.R.I.B.A. Also Messrs. L. H. Hayter, W. R. Lethaby, Dr. Garnett, and Mr. A. L. Leon, J.P., as representatives of the London County Council.

Mr. C. F. Hayward seconded, and expressed a hope that the Chairman would, during his year of office, get up a little more Gothic enthusiasm.

The motion was adopted.

Mr. Arthur Cates proposed the re-election of Mr. E. L. Somers Cocks as treasurer, and of Mr. P. D. Leake and Mr. Wm. Paine as auditors. The collection at the Museum should, he remarked, be of the greatest value to students. He was surprised to find the smallness of the annual subscriptions, but, on the other hand, it was satisfactory to know that the earnings of the art-school were so large as to meet the demands of the institution. These earnings, in fact, had enabled them to keep together the magnificent collection of architectural examples, which he hoped would be made to meet the more active uses of art and architectural students. Some of the best selections of mediæval art could be studied at the Museum in a way that they could not be studied elsewhere.

Mr. H. H. Statham seconded the resolution, which was adopted unanimously.

The President said it was obvious that there had been a little stagnation in the affairs of the museum, which was shown by the falling subscriptions. These had decreased from 120*l.* in 1889 to 60*l.* in 1899. The diminishing support from this source was due to deaths rather than to want of a renewed support from existing subscribers. As had already been remarked, the Museum was founded amid an outburst of enthusiasm for Gothic architecture. So far as students were concerned, he thought the study of Gothic together with Classic was an absolute necessity for a man who wanted to qualify for the present generation, with its enormously complicated wants. This Museum could do a great deal to encourage this, particularly if they enlarged its scope. His idea was that if they could ally the museum to the Royal Institute of British Architects, either now or when they located themselves in sufficiently capacious premises, its usefulness would be immensely increased. Pending that they might go on collecting casts which were not of purely Gothic style. He had received a letter from Mr. Francis Hooper on behalf of Mr. Francis Moore, of Urbino, offering a collection of casts from the palace of that city. These might be presented to the Institute or to the Museum as might be wished. He had provisionally accepted the gift on behalf of the Institute, and should bring the matter before the next meeting of the Council of the Institute and ask them to arrange to house the collection. The time had come when they should enlarge the sphere of usefulness of the Museum, and he thought this could be done and the income increased by appealing to architects, sculptors, and painters.

The meeting concluded with a vote of thanks to Mr. Aston Webb for acting as chairman during the early part of the meeting.

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

THE annual meeting of this Association was opened on Thursday last week in the Council Chambers at Westminster Town Hall, and in our last issue we gave a summary of the address by the President, Mr. C. H. Lowe, C.E., of Hampstead.

The President having read his address,

Mr. J. Patten Barber, Islington, moved that it be referred to the Council to consider and report upon the desirability of altering the articles of association and by-laws for the under-mentioned purposes:—(1) The admission to the Association of Assistant Surveyors and the principal Engineering Assistants to Municipal and County Engineers. (2) The making of alterations in and additions to the by-laws by resolution of the members at an annual general meeting on the recommendation of the Council. (3) Limiting the period during which a Past-President shall be a member of the Council. (4) Reducing the number of names nominated by the Council for Vice-Presidents.

The resolution, which was moved in four separate sections, was generally approved and adopted.

Sewage Farms.

Mr. H. Royle contributed a paper on the conditions necessary for successful purification of sewage by land treatment, which, in the absence of the author, was read by Mr. Greatorex. The author said it was well known that a good soil was of the utmost importance for the proper treatment of sewage, and must be combined with efficient under-drainage in order to produce a good effluent; nevertheless, when these two essentials were at hand the desired results were not always obtained. His object was to endeavour to show why this was so from the experience gained on the Stretford sewage-farm, which was undoubtedly a first-class farm and justly considered as the model sewage-farm in the watershed of the Joint Committee of the Rivers Mersey and Irwell. The conditions essential to success, he considered, were that no drain should be laid, if possible, less than 5 ft. deep; the cutting-out of old draining tiles and spit drains within 4 ft. on either side of the new trench; and the drains should be well and truly laid with close joints, while the filling-in and ramming could not be too well done. A fatal error on some sewage-farms was the placing of gravel, sand, or cinders, or using perforated tiles, with the object of giving, as was generally supposed, a better filtering medium. This practice was, of all the mistakes that could be made in regard to sewage treatment, the most disastrous. In the management of a sewage-farm it was essential that the manager should keep a strict watch on his effluent and his drains. In the laying-out of a sewage-farm, he would impress on all who were called upon to undertake the work that all drains should be laid in parallel lines and in the direction of the greatest slope of the land. On no account should the work be let by contract, except the trench-cutting; also every care should be taken in laying the tiles and filling in and ramming solid, for unless this be done a satisfactory effluent was an impossibility; and even when these precautions had been taken it would be found that frequent imperfections and unsatisfactory effluents would occur during sewaging of the land through worms, rats, and other causes.

Colonel Jones said the subject of sewage-farm management was one upon which he had been harping for many years. The main difficulty was the education of farm managers to understand the proper treatment of a sewage-farm. The ordinary farmer had to contend with the effects of the weather, but the sewage-farm manager had infinitely more to contend with, and he regretted that attention had been given so much to the theory to the neglect of the practical management. There was too much desire to lay down fixed rules, irrespective of the land, the sewage, and the circumstances; whereas a great deal of discretion must be left to the manager, and he must be encouraged to take an interest in his work.

Mr. Spencer, Newcastle-on-Tyne, considered that if any good were to come from a discussion on the education of managers of sewage-farms it would be well for the Council of the Association to formulate suggestions and forward them to the various County Councils, so that in technical education classes on agriculture attention should be given to sewage-farm management. Technical education was at present a fashionable matter, and sums of money were devoted by County Councils and County Boroughs to instruction in almost every subject but that in which the county and boroughs were so vitally interested—that of sewage-farms. If they discussed the subject for weeks it would have no practical effect, whereas a suggestion to the County Councils might be acted upon with good results.

Mr. Angell, Bermondsey, said his objection to the broad irrigation system of sewage disposal was that often too much attention was given to the crops at the expense of the sewage. It was frequently the custom when the crops were in full growth to stop the pouring of the sewage upon the land.

Mr. Walker, Croydon, referred to the experience of the Croydon sewage-farm—a very stiff clay land. He had a hole dug recently on the farm. There were 10 in. of soil, and 12 in. below the surface there was not the slightest mark of sewage. They discharge into a very shallow outfall, practically making the brook into which the effluent flows. At present there was no water passing down except their effluent. That land had been dealing with sewage for thirty-six years and was doing efficient work to-day.

Mr. E. G. Mawbey, Leicester, contended that with intermittent downward filtration the great thing was to keep the sewage off the top of the drains.

Mr. A. M. Fowler, Manchester, thoroughly endorsed the views of Mr. Royle, because however well an engineer might design his work, if he had not a good manager, it failed. They ought to have as little pressure upon the drains as they possibly could, and the wider the drains were apart the better the filtering media.

Mr. W. Harpur, Cardiff, said he was employed on the first intermittent downward filtration works carried out by Mr. Bailey Denton at Merthyr Tydvil. These works had been in operation for thirty years, and while the farmer managed his work as he did to-day they would have an absolutely perfect effluent. There was no surface water that came within 4 ft. or 6 ft. laterally of the drains. To get a perfect effluent they wanted to avoid having any drains directly under the land which they were sewaging.

Mr. Willcox, Birmingham, said he could not agree with Mr. Harpur as to having no drains under the land which was sewaged. He knew cases where drains were laid under the land and where good results were obtained. It depended more upon the area available and the quantity of sewage to be disposed of on the area; the method of disposal being the least important point.

Mr. A. D. Greatorex, West Bromwich, said he quite agreed with Colonel Jones as to the management of sewage-farms. He thought all sewage-farms should remain under the absolute control of the Borough Engineer who laid out the farm. He was rather pleased to have the entire management of a sewage-farm of 230 acres. He had no farm committee; the farm bailiff was entirely under his direction; and, therefore, he got good results. He thought if sewage-farms generally were placed under the control of the Engineers to the Local Authorities they would be able to educate the farm bailiffs to carry out their work properly, and sewage-farms would not have such a bad name as at present.

Bacterial Treatment of Sewage.

A vote of thanks having been accorded to Mr. Royle,

Mr. G. Thudichum, F.C.S., contributed a paper on the last twelve months' experience in the bacterial treatment of sewage. He said that in reviewing advances that had been made during the past year in the methods employed for the bacterial purification of sewage the observer was struck by the fact that such improvements or alterations related entirely to matters of detail and not to new modes of applying the principles laid some years ago. No startling innovation such as the Sutton coarse-grain bacteria bed on the septic tank had been brought forward; and the fine-grain bed, whether worked intermittently by alternate filling and emptying, or by the intermittently-continuous method, still stood as the acknowledged best means of final purification. There had, however, been very many novelties introduced in the way of automatic arrangements for controlling the filling and emptying or the distribution over the surface of filter beds. The much-argued question as to whether the preliminary breaking-up of solids and preparation for final oxidation is necessarily anaërobic had not yet been settled. It was contended by some that such primary simplification of complex bodies and solutionising of solid matters could only take place in the absence of air, and that a coarse-grain Sutton bacteria bed was only a septic tank in which the anaërobic organisms were employed in the most disadvantageous manner possible. But the investigations of Dr. Clowes at Crossness on a 13-ft. coke bed proved conclusively that (1) aërobic organisms were at work, since the proportion of oxygen in the air contained in the beds was gradually reduced whilst the beds stood empty; and (2) anaërobic conditions were never produced, since such reduction had not been found to exceed 25 per cent. of the original amount. It appeared to him that the preliminary liquefaction could be satisfactorily accomplished by either, and in the case of the coarse-grain bacteria bed the action was aërobic in the main, helped to a small extent by anaërobes, whilst in the septic tank it was plainly chiefly anaërobic, although a certain amount of the work was effected by aërobes. He was aware that this view was in conflict with those of many observers, but the fact remained that the Sutton bacteria bed did digest and solutionise the solid organic matter. In further proof of the possibility of purifying sewage matters without the intervention of any septic process, reference might be made to experiments by Dr. Dupre, who found that if crude London sewage were mixed with thirty volumes of fully aërated water no fouling took place, and the organic matter was finally oxidised without any preliminary putrefaction. In practice, however, the use of a tank placed between the sewer and the first set of bacteria beds had much to recommend it. In the first place, the nature of the inflowing sewage could be to some extent equalised; secondly, extreme variations in the rate of flow could be to a considerable extent controlled; and thirdly, no screening was required. For all these reasons a preliminary tank treatment was desirable, and further, it was not necessary that such tank should be covered, since air and light were sufficiently excluded naturally to enable the anaërobic organisms to perform their functions. The possibility of nuisance arising from an open tank was, however, another question, which could only be solved by time and actual experience. A strong argument in favour of covering the tank was undoubtedly that by so doing it might be rendered possible to make a profitable use of the evolved gases. At the Belleisle works, Exeter, the gas produced in the septic tank was employed for lighting purposes, and there could be no doubt that with further experience and improved appliances a result of considerable economic value could be obtained. Of improvements in mechanical means of filling and emptying bacteria beds, one of the most important was that recently introduced by Messrs. Cameron, Commin, & Martin. By this new gear a bed could be made to stand full for any required time before discharge, and between fillings the sewage was headed back in the tank, so that when the inlet valve to a bed was opened the tank effluent escaped with great rapidity and speedily filled the bed. 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able to steer the ship through the storms by the aid of the School of Art. At the same time they must realise that the Museum was founded for a more specific purpose than to carry on the work of a general school of art, and he thought the time had arrived when they should consider whether it was not desirable, by enlarging the character of the collection and by making it more representative of architectural and artistic work, to bring back the Museum to its original purpose. It seemed to him that, with their new classrooms and the resources they already possessed, they might rely upon their architectural friends to rally around them. It would be far better if they could encourage young men, instead of going in for black and white — the ranks of which were already crowded—to take up the applied arts. That was the end he had in view, and if by retiring and allowing others to come forward he could facilitate this, he would be happy to do so. The financial statement was very gratifying. The School of Art yielded 1,765*l.* 16*s.* 3*d.*, making the year's total receipts 1,840*l.* 17*s.* 11*d.* There was a surplus of income over expenditure of 160*l.* 5*s.* 2*d.*

Mr. Seth-Smith (President of the Architectural Association) moved the adoption of the report and balance-sheet, and expressed a hope that the suggestion thrown out by Mr. Adams would be considered. He was sure there were plenty of examples in the Museum to engage the attention of their best draughtsmen. Gothic architecture was just now under a cloud, but he was convinced that the cloud was a temporary one. It was quite lamentable to hear students speak of the lack of opportunity to study Gothic ornament, and that all the art schools were giving attention to strict Classic work.

The Chairman, who seconded, said they were the inheritors of a great trust, the outcome of a wave of enthusiasm thirty or forty years ago. It was associated with the Gothic revival, and some of them well remembered the interest with which the casts were collected. Enthusiasm for this phase of art had undoubtedly been on the wane for some years, and young men were not to be found studying Gothic as they used to.

The resolution was adopted.

The Chairman next proposed that Mr. William Emerson, President of the Royal Institute of British Architects, be elected President. By electing Mr. Emerson they hoped that he would bring the Museum more closely in touch with the members of his great profession.

Mr. J. Hungerford Pollen, who seconded, said he regarded Mr. Emerson's election as the precursor of a great accession of strength to the Museum.

The motion was adopted unanimously.

Mr. Emerson, on succeeding Mr. Aston Webb in the chair, briefly returned thanks. He remarked that when he looked at the list of Presidents who had preceded him he realised how great was the honour that had been bestowed upon him. There had preceded him in that chair such eminent men as the late Mr. Beresford Hope, Lord Alwyn Compton, the Bishop of Ely, and the Duke of Westminster. He had very pleasant recollections of Mr. Beresford Hope when he (the speaker) was with the late Mr. Burges.

Mr. Sidney W. Lee moved the election of the following as Vice-Presidents, namely—Messrs. Aston Webb, A.R.A.; John Belcher, A.R.A.; G. F. Bodley, A.R.A.; G. Frampton, A.R.A.; Mr. J. P. Seddon; the Duke of Norfolk; the Duke of Rutland; the Marquis of Ripon; Earl Fortescue; the Earl of Wemyss; and Lord Grimthorpe.

Mr. Bell seconded the motion, which was agreed to.

Mr. Brindley moved the re-election of the Hon. Secretary (Mr. Adams) and the members of the Council, viz., the Earl of Wemyss; Messrs. Aston Webb, A.R.A.; G. Forster Hayward, F.S.A.; Sydney W. Lee, F.R.I.B.A.; Wm. Pain, F.R.I.B.A.; J. Hungerford Pollen; and J. P. Seddon, F.R.I.B.A. Also Messrs. L. H. Hayter, W. R. Lethaby, Dr. Garnett, and Mr. A. L. Leon, J.P., as representatives of the London County Council.

Mr. C. F. Hayward seconded, and expressed a hope that the Chairman would, during his year of office, get up a little more Gothic enthusiasm.

The motion was adopted.

Mr. Arthur Cates proposed the re-election of Mr. E. L. Somers Cocks as treasurer, and of Mr. P. D. Leake and Mr. Wm. Paine as auditors. The collection at the Museum should, he remarked, be of the greatest value to students. He was surprised to find the smallness of the annual subscriptions, but, on the other hand, it was satisfactory to know that the earnings of the art-school were so large as to meet the demands of the institution. These earnings, in fact, had enabled them to keep together the magnificent collection of architectural examples, which he hoped would be made to meet the more active uses of art and architectural students. Some of the best selections of mediæval art could be studied at the Museum in a way that they could not be studied elsewhere.

Mr. H. H. Statham seconded the resolution, which was adopted unanimously.

The President said it was obvious that there had been a little stagnation in the affairs of the museum, which was shown by the falling subscriptions. These had decreased from 126*l.* in 1889 to 69*l.* in 1899. The diminishing support from this source was due to deaths rather than to want of a renewed support from existing subscribers. As had already been remarked, the Museum was founded amid an outburst of enthusiasm for Gothic architecture. So far as students were concerned, he thought the study of Gothic together with Classic was an absolute necessity for a man who wanted to qualify for the present generation, with its enormously complicated wants. This Museum could do a great deal to encourage this, particularly if they enlarged its scope. His idea was that if they could ally the museum to the Royal Institute of British Architects, either now or when they located themselves in sufficiently capacious premises, its usefulness would be immensely increased. Pending that they might go on collecting casts which were not of purely Gothic style. He had received a letter from Mr. Francis Hooper on behalf of Mr. Francis Moore, of Urbino, offering a collection of casts from the palace of that city. These might be presented to the Institute or to the Museum as might be wished. He had provisionally accepted the gift on behalf of the Institute, and should bring the matter before the next meeting of the Council of the Institute and ask them to arrange to house the collection. The time had come when they should enlarge the sphere of usefulness of the Museum, and he thought this could be done and the income increased by appealing to architects, sculptors, and painters.

The meeting concluded with a vote of thanks to Mr. Aston Webb for acting as chairman during the early part of the meeting.

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

THE annual meeting of this Association was opened on Thursday last week in the Council Chambers at Westminster Town Hall, and in our last issue we gave a summary of the address by the President, Mr. C. H. Lowe, C.E., of Hampstead.

The President having read his address,

Mr. J. Patten Barber, Islington, moved that it be referred to the Council to consider and report upon the desirability of altering the articles of association and by-laws for the under-mentioned purposes:—(1) The admission to the Association of Assistant Surveyors and the principal Engineering Assistants to Municipal and County Engineers. (2) The making of alterations in and additions to the by-laws by resolution of the members at an annual general meeting on the recommendation of the Council. (3) Limiting the period during which a Past-President shall be a member of the Council. (4) Reducing the number of names nominated by the Council for Vice-Presidents.

The resolution, which was moved in four separate sections, was generally approved and adopted.

Sewage Farms.

Mr. H. Royle contributed a paper on the conditions necessary for successful purification of sewage by land treatment, which, in the absence of the author, was read by Mr. Greatorex. The author said it was well known that a good soil was of the utmost importance for the proper treatment of sewage, and must be combined with efficient under-drainage in order to produce a good effluent; nevertheless, when these two essentials were at hand the desired results were not always obtained. His object was to endeavour to show why this was so from the experience gained on the Stretford sewage-farm, which was undoubtedly a first-class farm and justly considered as the model sewage-farm in the watershed of the Joint Committee of the Rivers Mersey and Irwell. The conditions essential to success, he considered, were that no drain should be laid, if possible, less than 5 ft. deep; the cutting-out of old draining tiles and spit drains within 4 ft. on either side of the new trench; and the drains should be well and truly laid with close joints, while the filling-in and ramming could not be too well done. A fatal error on some sewage-farms was the placing of gravel, sand, or cinders, or using perforated tiles, with the object of giving, as was generally supposed, a better filtering medium. This practice was, of all the mistakes that could be made in regard to sewage treatment, the most disastrous. In the management of a sewage-farm it was essential that the manager should keep a strict watch on his effluent and his drains. In the laying-out of a sewage-farm, he would impress on all who were called upon to undertake the work that all drains should be laid in parallel lines and in the direction of the greatest slope of the land. On no account should the work be let by contract, except the trench-cutting; also every care should be taken in laying the tiles and filling in and ramming solid, for unless this be done a satisfactory effluent was an impossibility; and even when these precautions had been taken it would be found that frequent imperfections and unsatisfactory effluents would occur during sewaging of the land through worms, rats, and other causes.

Colonel Jones said the subject of sewage-farm management was one upon which he had been harping for many years. The main difficulty was the education of farm managers to understand the proper treatment of a sewage-farm. The ordinary farmer had to contend with the effects of the weather, but the sewage-farm manager had infinitely more to contend with, and he regretted that attention had been given so much to the theory to the neglect of the practical management. There was too much desire to lay down fixed rules, irrespective of the land, the sewage, and the circumstances; whereas a great deal of discretion must be left to the manager, and he must be encouraged to take an interest in his work.

Mr. Spencer, Newcastle-on-Tyne, considered that if any good were to come from a discussion on the education of managers of sewage-farms it would be well for the Council of the Association to formulate suggestions and forward them to the various County Councils, so that in technical education classes on agriculture attention should be given to sewage-farm management. Technical education was at present a fashionable matter, and sums of money were devoted by County Councils and County Boroughs to instruction in almost every subject but that in which the county and boroughs were so vitally interested—that of sewage-farms. If they discussed the subject for weeks it would have no practical effect, whereas a suggestion to the County Councils might be acted upon with good results.

Mr. Angell, Bermondsey, said his objection to the broad irrigation system of sewage disposal was that often too much attention was given to the crops at the expense of the sewage. It was frequently the custom when the crops were in full growth to stop the pouring of the sewage upon the land.

Mr. Walker, Croydon, referred to the experience of the Croydon sewage-farm—a very stiff clay land. He had a hole dug recently on the farm. There were 10 in. of soil, and 12 in. below the surface there was not the slightest mark of sewage. They discharge into a very shallow outfall, practically making the brook into which the effluent flows. At present there was no water passing down except their effluent. That land had been dealing with sewage for thirty-six years and was doing efficient work to-day.

Mr. E. G. Mawbey, Leicester, contended that with intermittent downward filtration the great thing was to keep the sewage off the top of the drains.

Mr. A. M. Fowler, Manchester, thoroughly endorsed the views of Mr. Royle, because however well an engineer might design his work, if he had not a good manager, it failed. They ought to have as little pressure upon the drains as they possibly could, and the wider the drains were apart the better the filtering media.

Mr. W. Harpur, Cardiff, said he was employed on the first intermittent downward filtration works carried out by Mr. Bailey Denton at Merthyr Tydvil. These works had been in operation for thirty years, and while the farmer managed his work as he did to-day they would have an absolutely perfect effluent. There was no surface water that came within 4 ft. or 6 ft. laterally of the drains. To get a perfect effluent they wanted to avoid having any drains directly under the land which they were sewaging.

Mr. Willcox, Birmingham, said he could not agree with Mr. Harpur as to having no drains under the land which was sewaged. He knew cases where drains were laid under the land and where good results were obtained. It depended more upon the area available and the quantity of sewage to be disposed of on the area; the method of disposal being the least important point.

Mr. A. D. Greatorex, West Bromwich, said he quite agreed with Colonel Jones as to the management of sewage-farms. He thought all sewage-farms should remain under the absolute control of the Borough Engineer who laid out the farm. He was rather pleased to have the entire management of a sewage-farm of 230 acres. He had no farm committee; the farm bailiff was entirely under his direction; and, therefore, he got good results. He thought if sewage-farms generally were placed under the control of the Engineers to the Local Authorities they would be able to educate the farm bailiffs to carry out their work properly, and sewage-farms would not have such a bad name as at present.

Bacterial Treatment of Sewage.

A vote of thanks having been accorded to Mr. Royle,

Mr. G. Thudichum, F.C.S., contributed a paper on the last twelve months' experience in the bacterial treatment of sewage. He said that in reviewing advances that had been made during the past year in the methods employed for the bacterial purification of sewage the observer was struck by the fact that such improvements or alterations related entirely to matters of detail and not to new modes of applying the principles laid some years ago. No startling innovation such as the Sutton coarse-grain bacteria bed on the septic tank had been brought forward; and the fine-grain bed, whether worked intermittently by alternate filling and emptying, or by the intermittently-continuous method, still stood as the acknowledged best means of final purification. There had, however, been very many novelties introduced in the way of automatic arrangements for controlling the filling and emptying or the distribution over the surface of filter beds. The much-argued question as to whether the preliminary breaking-up of solids and preparation for final oxidation is necessarily anaërobic had not yet been settled. It was contended by some that such primary simplification of complex bodies and solutionising of solid matters could only take place in the absence of air, and that a coarse-grain Sutton bacteria bed was only a septic tank in which the anaërobic organisms were employed in the most disadvantageous manner possible. But the investigations of Dr. Clowes at Crossness on a 13-ft. coke bed proved conclusively that (1) aërobic organisms were at work, since the proportion of oxygen in the air contained in the beds was gradually reduced whilst the beds stood empty; and (2) anaërobic conditions were never produced, since such reduction had not been found to exceed 25 per cent. of the original amount. It appeared to him that the preliminary liquefaction could be satisfactorily accomplished by either, and in the case of the coarse-grain bacteria bed the action was aërobic in the main, helped to a small extent by anaërobes, whilst in the septic tank it was plainly chiefly anaërobic, although a certain amount of the work was effected by aërobes. He was aware that this view was in conflict with those of many observers, but the fact remained that the Sutton bacteria bed did digest and solutionise the solid organic matter. In further proof of the possibility of purifying sewage matters without the intervention of any septic process, reference might be made to experiments by Dr. Dupre, who found that if crude London sewage were mixed with thirty volumes of fully aërated water no fouling took place, and the organic matter was finally oxidised without any preliminary putrefaction. In practice, however, the use of a tank placed between the sewer and the first set of bacteria beds had much to recommend it. In the first place, the nature of the inflowing sewage could be to some extent equalised; secondly, extreme variations in the rate of flow could be to a considerable extent controlled; and thirdly, no screening was required. For all these reasons a preliminary tank treatment was desirable, and further, it was not necessary that such tank should be covered, since air and light were sufficiently excluded naturally to enable the anaërobic organisms to perform their functions. The possibility of nuisance arising from an open tank was, however, another question, which could only be solved by time and actual experience. A strong argument in favour of covering the tank was undoubtedly that by so doing it might be rendered possible to make a profitable use of the evolved gases. 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of albuminoid ammonia 80 per cent.: and of oxygen absorbed 80 per cent. When the material of the coarse bed was dug out it was found that the interstices within a foot from the bottom were entirely filled with a dark spongy substance; above that height they were only partially filled. This dark spongy substance had a not unpleasant earthy smell, and contained a large number of various low forms of animal life, especially worms When dried it consisted of 63·7 per cent. of mineral matter and 36·3 per cent. of organic matter.

Mr. J. S. Pickering, Nuneaton, said his experience with bacteria beds was directly opposite to Mr. Campbell's, although dealing with sewage almost exactly similar to Huddersfield, being largely composed of trade refuse. His experiments at Nuneaton had extended over two years, and the authorities were so satisfied with the result that they were going to launch out with a big scheme of treatment on the bacterial system. He could not possibly understand Mr. Campbell's coarse grain filter blocking up as it had done. He had gauged by meter the flow from both the coarse and fine beds at Nuneaton, and there was practically no diminution of the flows during that time, while the coarse bed had silted up only to the extent of 33 per cent. With regard to the filters he said that experience had proved it was not so much the material as the degree of coarseness, and good results could be obtained from a variety of materials. They were certainly not justified in using coke at its present price. He thought it misleading to give the result of one particular analysis as a result of a system. Isolated analyses were no use whatever, and ought to be disregarded.

Colonel Jones said the experiments carried out by the Manchester Corporation showed no difference whatever between the covered septic tank and the open ordinary tank of deposition. That he regarded as the most important fact which had come out respecting the bacterial systems this year. The poor they had always with them, and sewage sludge they would have always with them. They could not expect to get rid of it without trouble and without labour. There was one point which appeared to be established, and that was the horrible nature of the effluent that came from the septic tank. Mr. Mawbey, in the report on his experiments at Leicester, said it was evident that the septic effluent could not be treated on old pasture or rye grass without causing a nuisance. Mr. Mawbey went on to say: "It seems to me that in sewage treatment offensive putrefaction should be reduced to a minimum, and that the more the disintegration is done in the presence of air, and the less the retention or stagnation of sewage, the less will be the land required. There is not sufficient evidence to show that the liquefaction with the closed detritus tank exceeded that with the open one. It is certain, however, that, whether closed or open, the detritus tank, in order to retain its efficiency, should be frequently emptied. The closed septic tank used for 125 days yielded 7·63 tons of sludge per million gallons flow of sewage." He had been preaching for thirty years that in treating sewage they must be cleanly, and these tanks to be cleanly should be frequently emptied.

Mr. Smith, Kettering, and Mr. Lacey, Oswestry, having spoken, a vote of thanks was accorded to Mr. Thudichum for his paper.

Rate of Rainfall.

Mr. J. P. Dalton, Engineer to the Rylon-on-Tyne District Council, read a paper on the rate of rainfall. He said the subject was of the greatest importance to drainage engineers. He had been engaged several years in making careful observations with the view of ascertaining the different rates at which rain of varying degrees of intensity was deposited. The gauges used were of the direct reading type; the relative area of funnel and tube being so proportioned that one-hundredth of an inch of rain on the funnel raised the water level in the tube about three-tenths of an inch. Mr. Dalton proceeded to give a number of records of rainfalls which he had observed, the highest rate observed (which he had frequently noted in thunderstorms) being 2·40 in. per hour. The varying influences of local circumstances and conditions of the porosity of the soil and extent of paved and imperviously covered surfaces, of the length of sewers and velocity of flow obtainable in them, rendered the application of any general principle necessarily subservient to the judgment of the engineer in each individual case; but it appeared that the probable amount of rain as falling on the ground, should not be estimated at less than 1 in. to 1¼ in. in depth per hour, while the possible contingency of rain falling continuously during periods of several hours at higher rates up to 2 in. and even 2½ in. per hour should always be considered.

Mr. E. G. Mawbey, Leicester, in proposing a vote of thanks to Mr. Dalton, said he agreed with his conclusion that 1 in. to 1¼ in. of rainfall per hour should be provided for in the sewers, though he did not say that the sewers should be capable of carrying off that quantity. His predecessor at Leicester, Mr. Gordon, proved that only one-half of the rain found its way in the sewers during the time it fell, and he had since made experiments which confirmed that conclusion. They might take it roughly that they ought to calculate for the storm and foul water sewers each carrying off a volume equal to a quarter of an inch of rainfall per hour, and if only one-half reached the sewers then that would provide for 1 in. of rain per hour. It was no use attempting to design sewers to carry off an exceptional flow, for they had records of 1 in. of rain falling in twenty minutes.

Mr. W. Nisbet Blair, St. Pancras, who seconded, said the paper was very useful to them, because they had at some time or other to make provision for dealing with exceptional rainfalls. Although, as Mr. Mawbey said, there was no obligation on the part of the Local Authority to have sewers sufficiently large to carry off the entire rainfall, there might be circumstances which would render it desirable to do so.

A vote of thanks was unanimously accorded to Mr. Dalton for his paper, and the meeting adjourned.

In the evening the annual Association dinner was held at the Criterion Restaurant, the President (Mr. C. H. Lowe) presiding, and there was a large attendance of members of the Association.

[A report of Friday's proceedings will be given in our next issue.]

BUILDING TRADES' GIFT TO THE NATION:

HOMES FOR DISABLED SOLDIERS.

WE are asked to announce the following further list of contributions:—

	£	s.	d.
The Nottingham Master Builders' Association (per Mr. W. G. Barton)	100	0	0
The Clerk of Works' Association (per Mr. J. A. Spooner)	22	1	0
Collected by Messrs. Langford & Ward from Employers and Builders of Wisbech	18	14	10½
Employees of Messrs. Patman & Fotheringham	16	0	0½
Messrs. Smith & Co.	15	0	0½
Messrs. Raffety, Thornton, & Co., Limited	10	10	0
Workmen of Messrs. B. Ward & Co.	10	7	3
Workmen of Messrs. Malcolm, Macleod	10	0	0
Messrs. Isherwood Brothers (Salford)	5	5	0
Messrs. C. E. Todd & Co. (Hackney)	5	5	0
Messrs. Sheffield Brothers	5	0	0
Messrs. Peacock Brothers and workmen	3	16	5
Workmen of Messrs. W. H. Dews (Leeds)	3	6	4
Workmen of Mr. John Marsland (Walworth)	3	1	6
Mr. Alfred Dowling and workmen (Bristol)	2	17	0
Workmen of Messrs. Sheffield Brothers	2	15	9
Workmen of Mr. Thomas Cole	2	10	9
Workmen of Mr. J. Ashley (New Brighton)	2	10	0
Mr. J. Davis and workmen	2	10	0
Workmen of Messrs. C. E. Todd & Co.	2	8	0
Workmen of Messrs. E. A. Roome & Co.	2	7	0
Mr. George Humphreys (Bristol)	2	2	0
Mr. S. H. Blackstone (of Messrs. B. Ward & Co.)	2	0	0
Mr. W. J. Keene and workmen	2	0	0
Messrs. J. Hebblethwaite & Sons and workmen	1	13	6
Workmen of Messrs. Alfred Goslett & Co.	1	10	0
Mr. C. B. King and workmen	1	8	9
Employees of Mr. J. C. Noakes (Wolverhampton) (per Mr. C. Vincent Vale)	1	6	9
Workmen of Mr. George Humphreys (Bristol)	1	6	8
Mr. W. H. Bach and workmen (Kilburn)	1	6	6
Workmen of Messrs. A. Goslett & Co.	1	5	6
Workmen of Mr. F. W. Rhodes (Stoke Newington)	1	5	6
Workmen of Messrs. E. R. Burtt & Sons	1	2	6
Workmen of Messrs. T. Rider & Sons	1	1	0
Messrs. M. Cockerell & Sons	1	1	0
Employees of Mr. William Smith, jun. (Wolverhampton, (per Mr. C. Vincent Vale)	1	0	0
Workmen of Messrs. J. & M. Patrick	0	10	5½
Workmen of Mr. H. Crosswell (Brighton)	0	10	0
Workmen of Messrs. G. A. Browne & Co.	0	7	0
Workmen of Mr. C. W. Collins	0	5	0
Mr. W. Hammond (Battersea)	0	2	6

PASS EXAMINATION LISTS, INSTITUTE OF ARCHITECTS.—In the list in our last issue of those who had passed the Intermediate examination, the name of Mr. J. N. Randall Vining was incorrectly printed "Vine." The mistake was not ours, it arose from an imperfection in the lithographed list sent to us from the Institute.

Illustrations.

LAVENHAM CHURCH.

THE illustration of the south porch and a portion of the south side of this celebrated example of a late Suffolk church is given this week in connexion with the account of the Annual Excursion of the Architectural Association.

Lavenham is, as every one knows, one of the finest examples of the stone and flint churches of Suffolk, and is as remarkable for the rich character of its architectural decoration as for the excellent condition of preservation in which most of it remains.

The tower, 140 ft. in height and with the main portion of the walls entirely built in a small masonry of round flints, is a remarkable example of solid monumental building in what seems at first sight a very unmonumental material.

SKETCHES IN ILLUSTRATION OF THE ARCHITECTURAL ASSOCIATION EXCURSION.

THE sketches of various picturesque buildings or details on the route of the Architectural Association excursion, contained in these three plates, were specially made by Mr. Curtis Green.

A good many of these belong to the portion of the excursion of which the description will not appear till next week. Among the more interesting details we may call attention to the sketch of the curious plaster-decorated house at Clare; to the picturesque corner from West Stow Hall, on the same plate; to the porch at Hengrave Hall; the market-place at Mildenhall; the characteristic but unpretending village street house at Ixworth; and the curious roof-ridge from the same place, decorated with figures and animals which form integral portions of the ridge tiles.

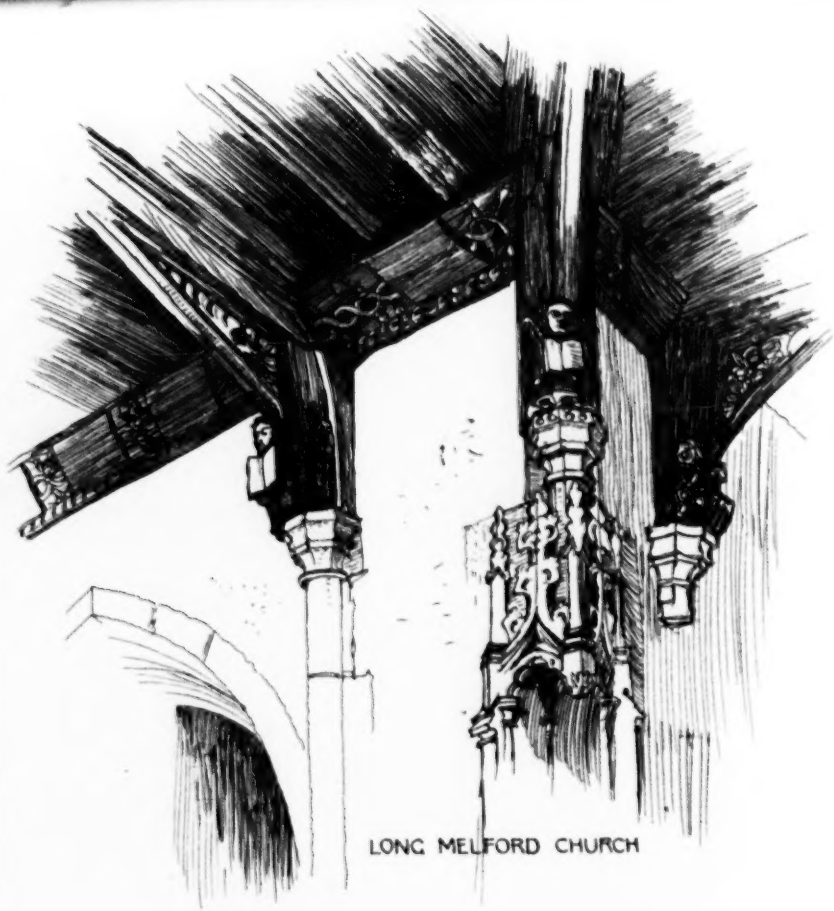
COMPETITIONS.

ASYLUM, CARDIFF.—A meeting of the Asylums Committee of the Cardiff Corporation was held recently, the only item on the agenda being a number of applications from architects for an extension of time in preparing the designs in the preliminary stage of the competition in connexion with the new asylum buildings for Cardiff. On the motion of Alderman Ramsdale, seconded by the chairman (Mr. W. H. Veall), it was decided that twenty-one days' extension be granted, the date fixed for sending in the designs being September 15.

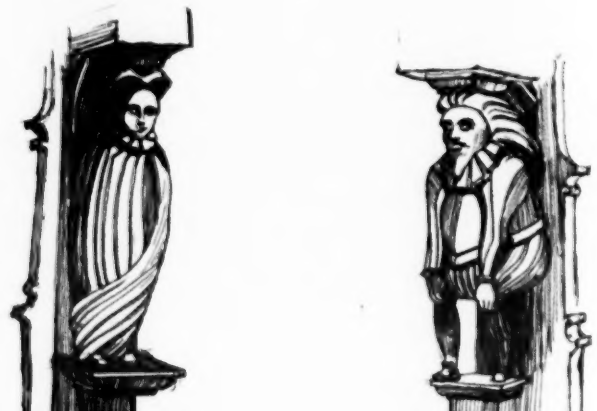
MUNICIPAL BUILDINGS, BLACKBURN.—It is stated that about fifty architects have expressed their wish to take part in the competition for the new municipal buildings at Blackburn and the additions to the Town Hall. In due time half a dozen will be selected, and from the designs prepared by those firms a final choice made.

BERKHAMSTED GIRLS' SCHOOL.—Sixty designs have been sent in for this competition. The assessor, Mr. H. H. Statham, after spending three days in examination of the designs, awarded the first premium, of 50*l.*, to the design numbered 55; the second premium, 35*l.*, to No. 1; and the third premium, 15*l.*, to No. 40. At a meeting of the Committee on the 20th inst. the corresponding envelopes were opened, and it was found that the author of No. 55 was Mr. R. H. Spalding, of 15, Queen-street, Cheapside; the authors of No. 1 were Mr. Curtis Green and Mr. Archibald C. Dickie, of 7, John-street, Bedford-row; and the authors of No. 40 were Mr. W. J. Tapper and Mr. H. D. Crouch, of 12, Gray's Inn-square. The designs were to be on view at Berkhamsted Town Hall on Thursday, Friday, and Saturday of this week. As the Committee were unable to arrange for the complete hanging of so large a number of drawings, and they could only be placed round the hall in sets, a small charge has been made for entry, to protect the drawings from any rough handling.

HULL CENTRAL LIBRARY.—The foundation-stone of the new Municipal Central Free Library, which is to be erected in Albion-street, Hull, was laid on the 21st inst., by Sir James Reckitt, Bart. The new library will include a newspaper reading-room, a ladies' reading-room, a room for the perusal of magazines, and a reference library. Mr. J. S. Gibson, of London, is the architect.



LONG MELFORD CHURCH



MELFORD HALL

LONG MELFORD

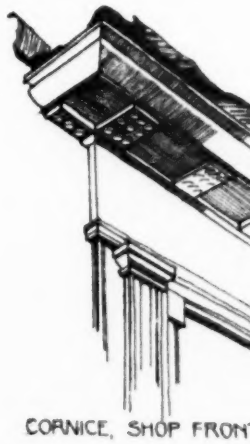
LAVENHAM CROSS

PORCH, HENGRAVE HALL.

PHOTO LITHO SPRAGUE & C° L^TD. 64 & 65 EAST HARDING STREET FETTER LANE E.C.

SKETCHES IN ILLUSTRATION OF THE ARCHITECTURAL ASSOCIATION EXCURSION

BARDWELL MANOR



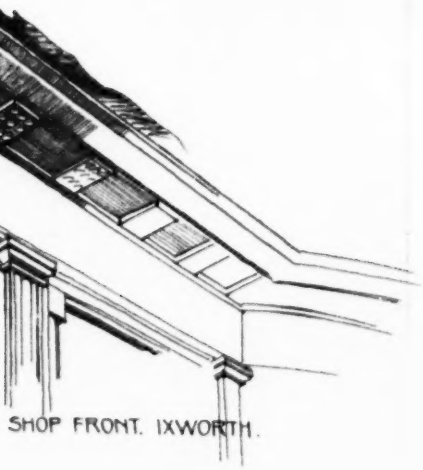
CORNICE, SHOP FRONT

IXWORTH

IXWORTH

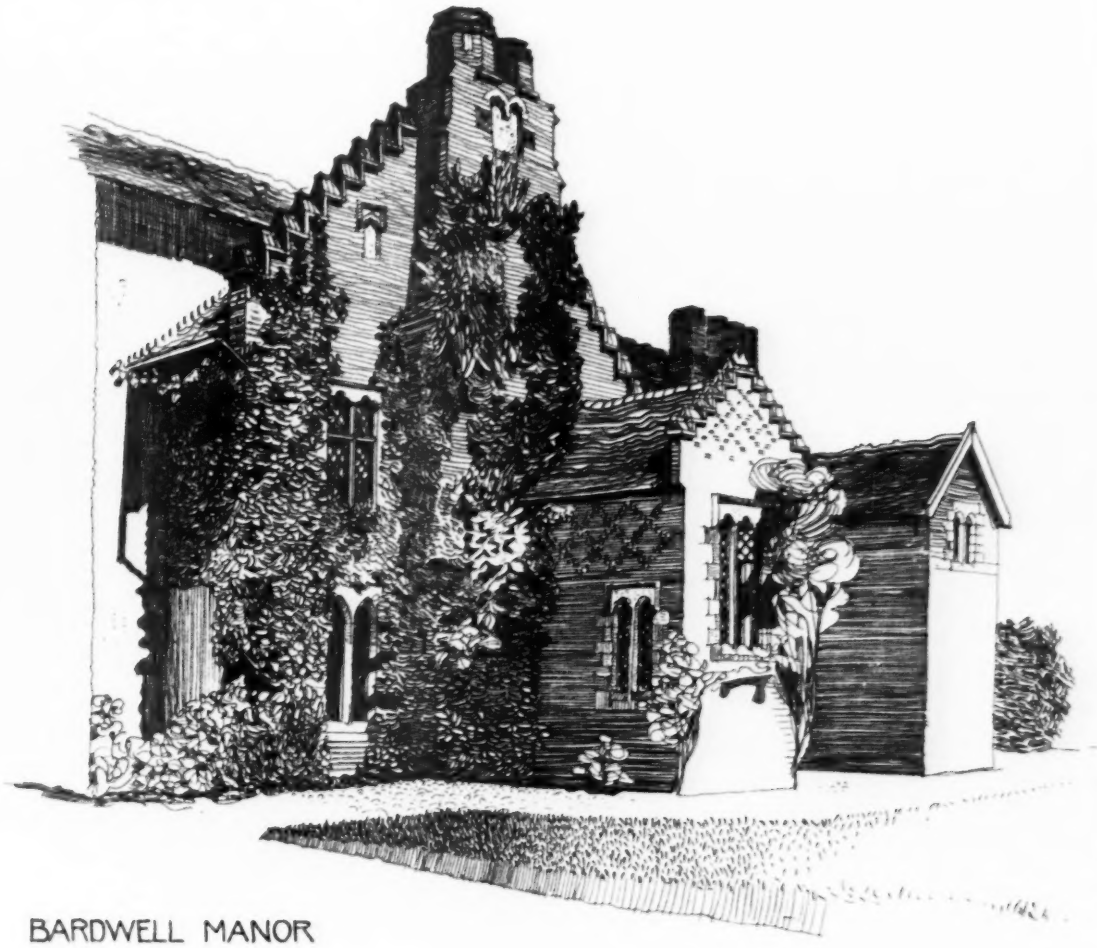
STOWLANGTOFT

STOW



SHOP FRONT, IXWORTH.

IXWORTH



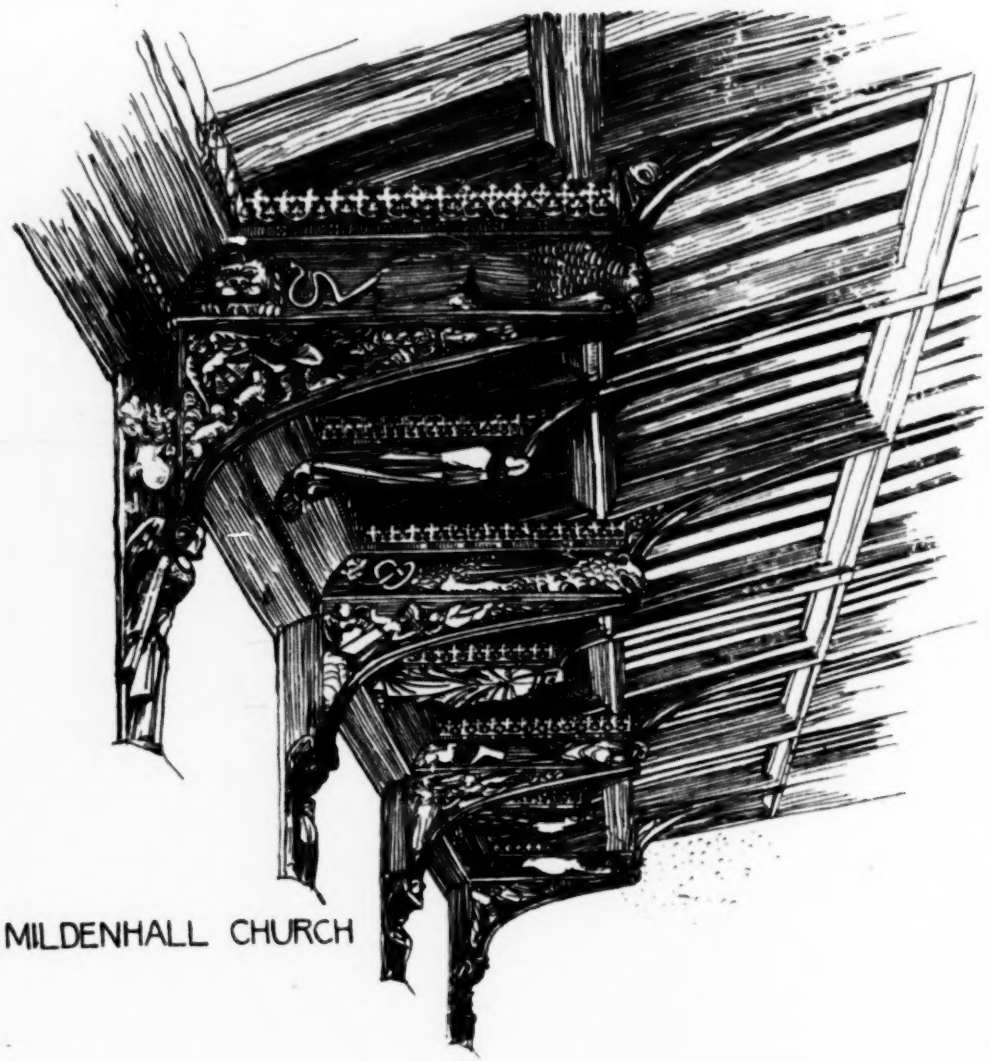
BARDWELL MANOR

STOWLANGTOFT CHURCH

IXWORTH

PHOTO LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET FETTER LANE E.C.

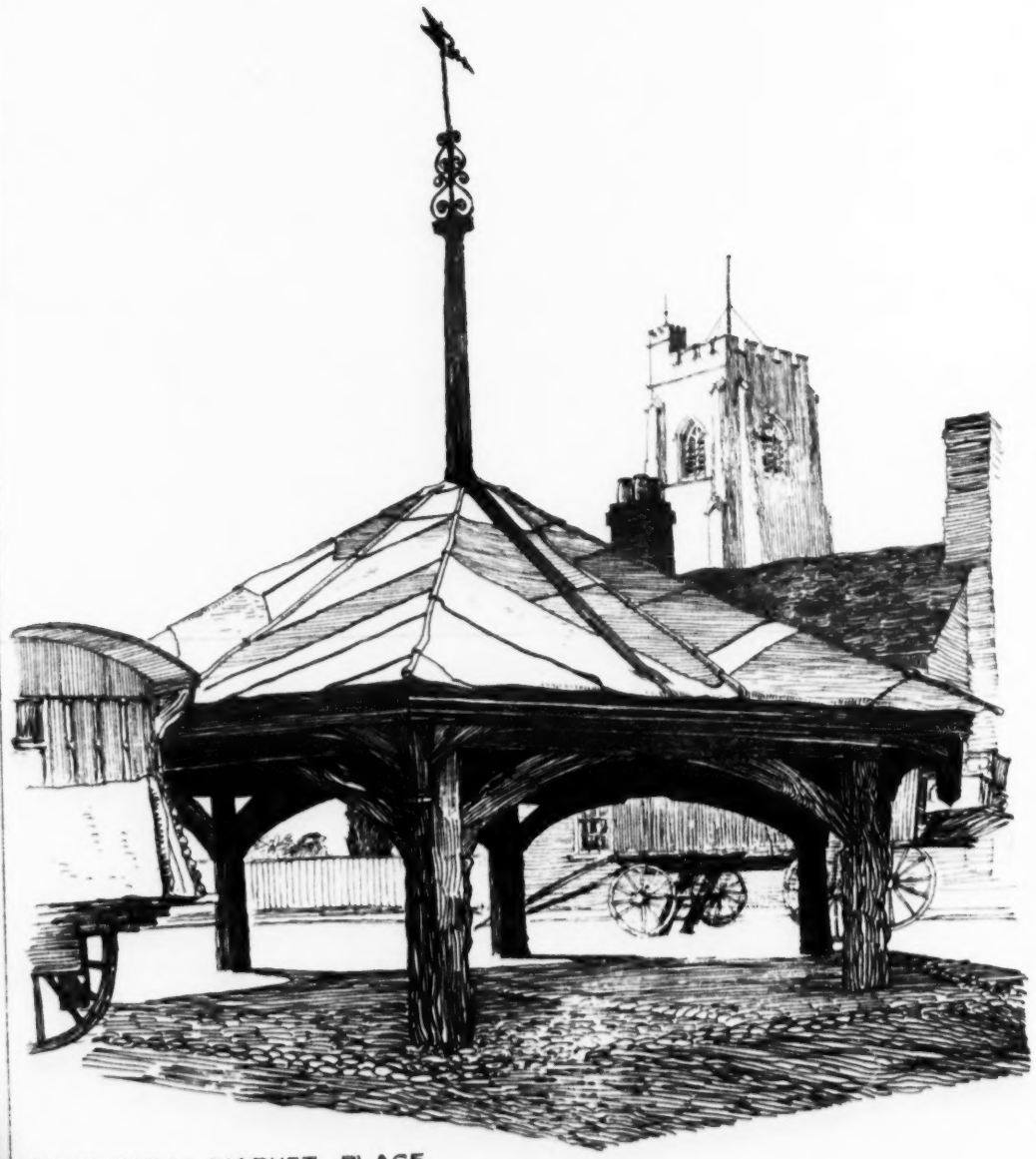
N OF THE ARCHITECTURAL ASSOCIATION EXCURSION.



MILDENHALL CHURCH

WEST STOW HALL

INN SIGN, CLARE (PROBABLY THE BASE OF A BAY WINDOW)



MILDENHALL MARKET PLACE

CLARE

PHOTO LITHO SPRAGUE & CO LTD 4 & 5 EAST HARDING STREET FETTER LANE E C

SKETCHES IN ILLUSTRATION OF THE ARCHITECTURAL ASSOCIATION EXCURSION.

ARCHITECTURAL SOCIETIES.

YORK ARCHITECTURAL SOCIETY.—The third meeting of the summer session, arranged by this Society, took place on the 21st inst., when by permission of the owner, Mr. Sidney Leetham, a visit was paid to Elm Bank. This family residence has recently undergone extensive alterations and improvements (under the direction of Messrs. Penty & Penty, architects). The visitors were received on their arrival by Mr. and Mrs. Leetham, who accompanied them through the various apartments, and afterwards entertained them. Mr. Arthur J. Penty, in explaining the structural alterations, stated that although the exterior of the house presented much the same appearance, it had internally being entirely remodelled. The principal alteration consisted in the placing of a large hall, two stories in height, in the centre of the house, from which access is obtained to the principal rooms on the ground and first floors. The dining-room, drawing-room, morning-room, and smoke-room have been replastered, panelled, and decorated. The vestibule, hall, staircase, smoke-room, and dining-room are finished in oak; the remainder of the rooms are painted. Mr. George W. Milburn is responsible for the sculpture and carving.

ARCHÆOLOGICAL SOCIETIES.

BIRMINGHAM ARCHÆOLOGICAL SOCIETY.—The third excursion of the Society for the present season was held on the 14th inst. The two churches of Arley and Astley formed the archæological basis of the journey. Of Arley it can only be said that the exterior is more attractive than the interior. The latter has undergone restoration with the usual results. Almost every semblance of antiquity has been obliterated, and the manner in which the principal remaining monument and the piscina have been framed in oak is, and it is to be hoped will remain, unique. The exterior, on the other hand, has been reverently treated, and the massive battlemented tower is fine and stately. The church of Astley has many points of great interest, and although it has suffered egregiously from the neglect and rapacity of former lords of the manor, yet the injuries are of so long-standing as to have been partially condoned and covered by time. What exists now is but a fragment of the noble edifice once known far and wide as the chief landmark—"The Lantern"—of the Forest of Arden. The beautiful tracery of the windows, the finely-finished buttresses and corbel table all testify to the departed grandeur of the original church. The interior is singular from being really only a portion of the architect's design, the height being out of all proportion to the present extent of the building. The stalls are decorated with very curious paintings of saints, and the walls retain the quaint Jacobean Scriptural quotations which do not now appear so much out of harmony with the architectural style of the building as they must once have seemed. The traces of a demolished side chapel are still very evident, and in digging a grave recently a very interesting discovery of a tiled pavement belonging thereto has been made.—*Birmingham Post.*

LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.—The annual excursion of this Society took place on the 14th inst., and was to Wantage, in Berkshire. About fifty members assembled at Paddington terminus, and took the 9 a.m. train, under the leadership of Mr. T. W. Shore, assisted by Mr. C. Welch, hon. secretary, Mr. Herbert C. Welch, and Mr. W. P. Ivatts. On arriving at Wantage the statue of King Alfred the Great, by Count Gleichen, was inspected, and then the church, one of the largest in Berkshire, containing the tomb of Sir William Fitzwarin, A.D. 1361, was visited. Here the visitors were received by the vicar, Canon Archer Houblon, who described the church and pointed out the monuments and brasses. The large brass to Sir Ivor Fitzwarin, 1414, attracted much attention; this knight's daughter was married to Sir Richard Whittington, and his will has just been found in the library of Lambeth Palace, and translated by Mr. Challenor Smith; it was read by the vicar. The members then ascended the tower of the church, when Mr. Shore pointed out the site of the ancient palace of the West Saxon kings, in which King Alfred the Great was born; it is on a rising ground to the north-west of the church Subsequently the party proceeded in brakes along the Ikleton-road (the ancient "Ichenilde Strete") via Letcombe, mentioned in Parker's Glossary, to the famous "Blowing Stone" at Kingstone Lisle. This stone is described by Scott in "Kenilworth." It is a large grey sandstone about 2 ft. cube, with a hole or channel right through it, so that it can be blown to sound like a horn. Here several of the party "blew" the stone, and then proceeded to "Wayland's Smithy," locally known as Wayland Smith's Cave, which Mr. Shore said was probably a dolmen of the Neolithic period, and known by this name in Saxon times in association with the extremely ancient Teutonic legend of Weland, the mythical smith of old German literature. The "wide geat be eastan Welandes Smippan" is mentioned in an Anglo-Saxon charter in 955. This dolmen is a collection of stones, with a large one on top formed not unlike a miniature Kit's Coty House. The next drive was to Uffington Church, where, unfortunately, time did not permit a long visit. The station was then reached, and by 6.40 p.m. train the party returned to town.

SURREY ARCHÆOLOGICAL SOCIETY. — The annual excursion of this Society for the present year took place on Thursday, the 19th inst., to Guildford, Ockham, Ripley, Send, and Sutton Place. Assembling at Guildford railway station at eleven, where brakes were in attendance, a party of about seventy, under the guidance of Mr. Ralph Nevill, Mr. M. S. Giuseppi, hon. secretary, and Mr. W. P. Ivatts, drove off to Ockham Church, where a paper was read by Mr. H. St. John Bashall, who said it was just thirty-six years ago since the Society last visited there, and since 1875 this church had been restored. It was dedicated to All Saints, and it stood in Ockham Park, about one hundred yards from the Mansion House. It consisted of a nave, chancel, and north aisle. In the latter stood the large monument of Lord Chancellor King and his family. The church was mentioned in Domesday Book, but the only feature now remaining of that period was the arch at the entrance of the tower. There were very slight traces of any work older than the thirteenth century. In the fifteenth century the church underwent extensive remodelling. It formerly contained seats from 6 ft. to 8 ft. high and a gallery, but these had been cleared away.—The party then went on to Ripley, where the church was visited and described by Mr. Philip M. Johnston. He said it was a contrast to the church they had just visited, as Ripley Church was nearly all modern, the nave dating only from 1845-6, which superseded one erected about 1790. But the chancel was a fragment of the ancient Chapel of Ripley, which was attached to Send, this not being a separate parish. It was, in the main, Norman work, and dated from about 1140 to 1150. The chief features of interest were the chancel window, which is in the Early English style, and the string course running round the chancel. The drive was then continued to Send, where the curious old church was visited, and also described by Mr. P. M. Johnston. He said this church was mentioned in Domesday Book. There was probably some building on the site of the present church, and possibly it was a wooden one. There was, however, not a single stone in the present building which could be dated back to Norman times when Domesday was compiled. The earliest portion of the present church was the chancel, which represented the width of the whole of the original building. The nave was widened in the fifteenth century. Having examined the rood screen, which is a fairly perfect specimen, and the seats, which are for the most part of the original fifteenth century work, and the porch and the inner door with its ironwork all of the same date, the visitors drove away to Sutton Place. Here they were received by Mr. Leonard F. Harrison and Mr. Frederic Harrison, the latter gentleman describing the house and escorting the visitors over it. He said he had resided there twenty-five years, and it was just eighteen years ago since the Society visited the house, and he read a paper thereon, which will be found published in the ninth volume of the Society's Transactions. Sutton Manor, he said, was granted by Henry VIII. in 1521 to a favourite servant named Sir Richard Weston, knight, who built the present house somewhere about 1523-5; the turret bell on the roof was dated 1530. Henry VIII. frequently dined in the large hall, and among the visitors were Cardinal Wolsey and Thomas Cromwell. Sir Richard Weston lived here till he died in 1542. The Manor remained in his family for nearly three centuries down to 1782, when it was left to a distant connexion of the family, who devised it to his grandson, Mr. Francis Salvin, the present owner. Queen Elizabeth was a frequent visitor to the house. The architecture was of a kind almost unique—not a bit of stone was used; the house was built entirely of brickwork and terra cotta. The latter, though over 400 years old, had lasted so well and was so sound that casts had been taken of it for the purpose of restoration. The large quadrangle was 81 ft. 6 in. square, and the gate tower, which used to stand in the middle, was 70 ft. high before it was pulled down in 1786. The visitors soon after returned to Guildford, and thence to London by the 8 p.m. train.

BRITISH FIRE PREVENTION COMMITTEE.

THE concluding series of fire tests of the present session conducted under the auspices of the British Fire Prevention Committee were undertaken on Wednesday at the testing-station near Regent's Park, this being the last occasion on which this testing-station can be used, as the committee have to move their plant by the autumn to make room for an extension of the Great Central Railway, which has obtained Parliamentary powers over the property in question. The occasion was marked by the chairman of the committee entertaining a party at luncheon, among whom were: Mr. Arthur Cates, the Crown Surveyor; Major-General Festing, of the South Kensington Museum, and several other officers of the committee.

There was a large attendance of district surveyors, government and municipal officials for the actual tests, which comprised a continuation test with a patent floor which had already been subjected to a preliminary investigation a fortnight ago, one with a partition, as well as two tests with iron doors.

The door tests were of considerable importance as comparative tests, as one of the doors was built in accordance with the requirements of the London Building Act, and the other in accordance with the requirements of the insurance companies. It was found that although the Building Act door was of better construction than really required by the Act, the insurance door, in which only the minimum requirements were observed, was the more efficient.

The floor in question was constructed by the Mural and Decorations Syndicate. The preliminary test lasted one and a-quarter hours at a temperature up to 2,000 deg. Fahr., followed by an application of water. The continuation test was for another hour at similar temperatures, with a further application of water. The problem was to see what the resistance of this floor would be after having passed through one ordeal of fire, the matter being of the highest importance to insurance companies as a question of reinstatement.

The partition under investigation was the "Cunnah-Wright" partition constructed by the Fireproof Syndicate. The test was of one hour's duration at temperatures up to 2,000 deg. Fahr., with a final application of water.

As regards the iron doors, these doors were simultaneously subjected to fire up to 2,000 deg. Fahr., followed by the application of water, the test being of one hour's duration.

The results of the tests will no doubt be issued by the Committee in due course.

BUILDERS' BENEVOLENT INSTITUTION:

ANNUAL MEETING.

THE fifty-third annual general meeting of the subscribers and donors of this charity was held at 35, Southampton-row, Bloomsbury-square, W.C., on Wednesday, the 18th inst. Mr. J. T. Bolding presided, and there were also present Mr. T. Stirling, Mr. T. Gregory, Mr. A. Ritchie, Mr. R. Perkins, Mr. G. J. Lough, Mr. C. Bussell, &c. The secretary (Major R. A. Brutton) read the annual report, in which the committee expressed regret that the Institution, in common with most ch[illegible]es, had suffered somewhat in the amount of a[illegible] subscriptions on account of the lamenta[illegible] in which the country is now engage[illegible]as hoped, however, that on the conclusion [illegible]r

the subscriptions would revert to the average amount. But, while regretting this falling off, the committee were pleased to say that the total receipts for the year would be equal to those of last year, owing to the exceptionally successful appeal made by the President, Mr. A. E. Parker, at the annual dinner, which made it a record year. In consequence of this result they were again enabled to elect all the eligible candidates. The Committee also reported that there had been nine deaths during the year amongst the pensioners, and six new pensioners had been elected.

The report and balance-sheet were unanimously adopted. The Chairman moved that Rule III., section I., be amended by altering the age of candidates for pensions from 60 to 55 years of age. The proposed alteration, he said, had had the consideration of the Committee at several of their meetings, and had after much consideration received their unanimous approval. He had had an experience of over thirty years of the candidates who applied for the benefits of the charity, and he had known many cases where unsuccessful builders, worthy of the relief this Institution afforded, had had to pass even more than five years of most miserable existence waiting till they reached sixty years of age to obtain a pension. In the early days of the Institution, half a century ago, he thought sixty years of age was a reasonable limit; but now he ventured to say that with increased competition and the many troubles, difficulties, and liabilities connected with the building trade, an unsuccessful member of that business, after possibly a long and severe struggle to maintain his position, was as old to-day at fifty-five as a man in a similar position was at sixty half a century ago. The committee would be most careful to see that no advantage was taken of this change by any candidate who was able to get his own living.

The resolution was unanimously agreed to.

Mr. Deputy Greenwood, C.C., was elected President for the current year, and it was announced that the annual dinner will be held at the Carpenters' Hall on Thursday, November 22.

Votes of thanks were passed to the President, vice-presidents, trustees, treasurer, auditors, and committee; and a similar compliment to Mr. Bolding for presiding closed the proceedings.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday afternoon in the County Hall, Spring-gardens, Alderman Dickinson, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee it was agreed to lend the Battersea Vestry 14,000*l.* for electric lighting purposes, and 1,750*l.* for street improvements; the Fulham Vestry 15,000*l.* for the purchase of Swan Wharf and a site for the extension of stables; the Lee District Board 1,125*l.* for pipe sewers; Shoreditch Vestry 15,140*l.* for paving and sewer works; the Camberwell Vestry 7,000*l.* for paving works; the St. James's Vestry 8,997*l.* for paving works; the Poplar District Board 20,000*l.* for paving works; and the Shoreditch Vestry 30,000*l.* for electric lighting purposes.

The Clerk's Resignation.—Mr. McKinnon Wood, on the reception of the General Purposes Committee's report announcing the resignation of the clerk, moved a resolution expressing the committee's regret at Mr. Stewart's departure, and thanking him for his past services. The resolution having been agreed to,

The Clerk (Mr. C. J. Stewart) briefly replied, and thanked the Council for its vote.

Gas Testing.—The Public Control Committee expressed their surprise at the rejection by Parliament of the Council's proposals for testing the London gas supply by photometer, and recommended:—"That the Council do ask the Board of Trade to institute an inquiry as to the cause of the persistent differences between the results of testing the illuminating power of gas supplied by gas companies at prescribed testing-places and of tests made with the portable photometer of identical construction of gas supplied to other buildings in the county."

The recommendation was adopted.

Albert-square, Commercial-road.—The Parks and Open Spaces Committee recommended and it was agreed, "That the Council do approve the estimate of 7,000*l.* submitted by the Finance Committee, and do resolve to purchase the garden of Albert-square, Commercial-road, for the purposes of an open space."

By-laws as to the Removal of Offensive Matter.—On the recommendation of the Public Health Committee, the following was agreed to:—

"(*a*) That the Council do make by-laws under section 16 of the Public Health (London) Act, 1891, in the following terms, and that the seal of the Council be affixed to copies of such by-laws—

LONDON COUNTY COUNCIL.

By-laws made by the London County Council under the Public Health (London) Act, 1891.

By-laws under Section 16 (2) For prescribing the times for the removal or carriage by road of any fæcal or offensive or noxious matter or liquid in or through London, and providing that the carriage or vessel used for the removal or carriage by road or water of any such matter or liquid in or through London shall be properly constructed and covered so as to prevent the escape of any such matter or liquid, and as to prevent any nuisance arising therefrom.

1. Every person who shall remove or carry, or cause to be removed or carried, by road or water in or through London any fæcal or offensive or noxious matter or liquid, whether such matter or liquid shall be in course of removal or carriage from within or without or through London, shall use or cause to be used therefor a suitable carriage or vessel properly constructed and furnished with a sufficient covering so as to prevent the escape of any matter or liquid therefrom, and so as to prevent any nuisance arising therefrom.

Such person shall not remove or carry, or cause to be removed or carried, such matter or liquid by road in or through London except during the following periods, viz.:—

Between five o'clock a.m. and ten o'clock a.m., or during the period commencing two hours before sunset and ending one hour after sunset, in any day during the months of March, April, May, June, July, August, September, and October.

Between six o'clock a.m. and eleven o'clock a.m., or during the period commencing two hours before sunset and ending one hour after sunset, in any day during the months of November, December, January, and February.

This by-law shall not apply to any person removing or carrying manure consisting only of horse-dung with a sufficient proportion of straw to render it inoffensive, and shall not apply to any person removing or carrying in a suitable carriage or vessel as aforesaid manure consisting of horse-dung and litter other than straw.

2. Every person who shall offend against the foregoing by-law shall be liable for every such offence to a penalty of 5*l.*, and, in the case of a continuing offence, to a further penalty of 40*s.* for each day after written notice of the offence from the Sanitary Authority.

Provided, nevertheless, that the justices or court before whom any complaint may be made or any proceedings may be taken in respect of any such offence may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this by-law.

Repeal of By-law.

3. From and after the date of the confirmation of these by-laws, the by-law numbered 1 (one) in the series of by-laws which was made by the London County Council under Section 16 (2) of the Public Health (London) Act, 1891, on June 22, 1893, and was confirmed by the Local Government Board on June 28, 1893, shall be repealed.

(*b*) That the clerk be instructed to advertise notice of the Council's intention to apply to the Local Government Board for confirmation of the by-laws, and be also instructed to take the other steps prescribed by Sections 184 and 185 of the Public Health Act, 1875."

Salaries of Sanitary Inspectors.—The same Committee reported as follows, the recommendation being carried:—

"On the 3rd instant, the Council, on our recommendation, decided to address a letter to the Local Government Board expressing the opinion that the salary of 100*l.* per annum proposed to be paid to Mr. T. Mitchell, a sanitary inspector appointed by the Paddington Vestry, was inadequate, and stating that the Council hoped that the Board would not in future sanction the appointments of sanitary inspectors unless adequate salaries were paid. On the 16th instant the Local Government Board acknowledged the receipt of the Council's letter, and stated that they noted the opinion of the Council expressed therein. On the same day they forwarded a letter stating that they had sanctioned another appointment (that of Mr. S. H. Kemp, Stoke Newington) at a salary of 104*l.* per annum. We regret that the Board have not insisted in this case on the payment of an adequate salary, and we recommend—That the Local Government Board be informed that the Council observes with regret that they have sanctioned the appointment of Mr. S. H. Kemp as a sanitary inspector, in the parish of Stoke Newington, at the inadequate salary of 104*l.* per annum."

Westminster Improvement Scheme.—An Urgency Report was brought up by the Improvements Committee respecting the improvement scheme at Westminster which has recently been before a Committee of the House of Lords. The Committee had found the preamble of the Bill proved, but did not approve of the suggested plans, although an alternative plan met with their sanction. If the improvement should be carried out in accordance with the decision of the Committee of the Lords the effect would be to add to the Victoria Tower Garden an area of about three-fourths of an acre, the greater part of which would otherwise have been available for recoupment. The line of the street would have a bend near the southern end of the present garden, with the result that, in approaching from the south, a finer view of the Houses of Parliament would be obtained, and, conversely, any one going south from the Houses of Parliament would obtain a better view of any buildings to be erected upon the southern portion of the new street. The Victoria Tower Garden would be scarcely touched, and a fine row of some twelve trees would be preserved. The extent of the property to be compulsorily acquired was not altered, but land that would otherwise have been available for recoupment would now be added to the garden, and it was estimated that the selling value of this land would be about 60,000*l.* As against this there was a small set-off in the engineering works, which would be somewhat less expensive, the estimated gain being about 4,000*l.* Therefore, to carry out the new scheme would cost the Council about 56,000*l.* more than the scheme embodied in the Bill. The Committee felt that the Council was in a difficult position; but nevertheless thought they should proceed.

A Report of the Parliamentary Committee on the same subject was taken with the urgency Report, the recommendation being that the Council should not accept the alterations.

After a long discussion, during which several amendments were considered, the following amendment, moved by Mr. Shaw-Lefevre on behalf of the Improvements Committee, was agreed to:—

"That the Council do proceed with the Bill subject to the Select Committee of the House of Lords agreeing that the new street from the southern end of Abingdon-street to Lambeth Bridge shall be carried out in general accordance with the route shown upon the plan approved by the Improvements Committee on June 7, 1899, sanctioned by the Council on July 4, 1899, including the widening of the northern end of Abingdon-street as already arranged."

Asylums.—On the recommendation of the Asylums Committee it was agreed to carry out the following works:—

Laundry Block, Banstead: Alteration of thirteen rooms on the three floors and the associated dormitory on ground floor, and heating, 260*l.*

Main Kitchen, Banstead: One cutting-up table and hot plate, 120*l.*

Extension of Vegetable Shed, next Steward's Store, Banstead: Van and cart shed, brick and slate, 200*l.*

Gas Works, Banstead: Additional gas holder capacity, 650*l.*

Sinking a Well, Claybury, 800*l.*

Apparatus for removal of steam from laundry, Colney Hatch Asylum, 600*l.*

Alterations to wards Nos. 17, 21, and 23, Colney Hatch, 2,667*l.*

Provision of cottages for cowman and gardener, Hanwell, 750*l.*

Provision of vegetable store, Hanwell, 280*l.*

Additional lavatory accommodation, Hanwell, 150*l.*

Horton Estate—Central station for the supply of water and electricity, 14,340*l.*

Horton Estate—Lining of well, 2,100*l.*

Tenders.—The following tenders have been accepted:—

Reinstatement of No. 4, Spring-gardens, after damage by fire. Mr. F. Bull, 266*l.*

The wiring and fittings from electric light installation at the Fulham Fire Station. Messrs. Tamplin & Makovski, 235*l.* 4*s.* 6*d.*

Work at the Kentish Town Fire Station. Mr. F. Bull, 411*l.*

Electric light, &c., wiring, Horton Asylum. Mr. T. Scott Anderson, Sheffield, 8,700*l.*

The construction of a subway between the generating station and the existing subway of the Victoria Embankment, in connexion with the electric light installation, Victoria Embank-

ment and Westminster Bridge. Mr. S. Kavanagh, 323*l.* 14*s.*

Improvements.—The following recommendations of the Improvements Committee were agreed to :—

"That the estimate of 1,055*l.* submitted by the Finance Committee be approved, and that, subject to the Vestries of St. Luke and Shoreditch each contributing one-fourth of the net cost of the improvement, the Improvements Committee be authorised to take the necessary steps to widen Old-street at the junction with City-road by the setting back of the frontage of the City and South London Railway station, as shown upon the plan approved by the Improvements Committee on January 24, 1900.

That the estimate of 700*l.* submitted by the Finance Committee be approved, and that the Improvements Committee be authorised to acquire the leasehold interest in Nos. 304 and 306, Mare-street, required in connexion with the widening of Mare-street between the North London Railway and the Triangle, in respect of which the Vestry of Hackney are to pay one-fourth of the net cost.

That the estimate of 1,225*l.* submitted by the Finance Committee be approved, and that, subject to the terms of an agreement to be prepared by the solicitor, and to the Wandsworth District Board contributing one-third of the net cost, the Council do accept the offer of the owners of the Althorp-lodge estate to give up, for 600*l.*, the land required for widening Garratt-lane, Wandsworth, to 54 ft. at the Althorp-lodge estate, as shown upon the plan approved by the Improvements Committee on July 11, 1900.

That the amount of the Council's contribution to the Greenwich District Board in respect of the widening of South-street, Greenwich, be 232*l.* 14*s.*"

Conveniences, Leicester-square Gardens.—The Parks and Open Spaces Committee recommended, and it was agreed—

"That the Council do grant permission to the Strand District Board to make up the northern entrance of Leicester-square Garden to the level of the path outside, which has been raised in connexion with the construction there of underground conveniences, subject to the whole of the work being done to the satisfaction of the chief officer of the Parks department; and that the District Board be permitted to retain the drain ventilating grating that they have had fixed within the boundary railings of the garden, subject to their giving an undertaking, in terms to be approved by the Solicitor, to remove the grating whenever called upon by the Council to do so."

The Council adjourned at 8 o'clock.

APPLICATIONS UNDER THE LONDON BUILDING ACT, 1894.

AT the meeting of the London County Council on Tuesday, the following applications under the London Building Act were considered. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated :—

Proposed Building on Site of Nos. 35, 37, 39, and 41, Sylvester-road, Hackney.

Hackney, Central.—(*a*) Recission of the resolution of the Council of June 26, 1900, consenting to the erection of a building on the site of Nos. 35, 37, 39, and 41, Sylvester-road, Mare-street, Hackney, to abut also upon Pigwell-path (Messrs. Ford, Son, & Burrows for Messrs. Stapley & Smith). (*b*) A building on the site of Nos. 35, 37, 39, and 41, Sylvester-road, Mare-street, Hackney, to abut also upon Pigwell-path (Messrs. Ford, Son, & Burrows for Messrs. Stapley & Smith).—Consent.

Lines of Frontage.

Deptford.—Houses with one-story shops on the east side of a house known as Tremorvah, Lewisham High-road, and one-story shops in front of that house, also one-story shops southward of such house, on the east side of Tyrwhitt-road (Mr. J. Webster for Messrs. G. R. and C. C. Storey).—Consent.

Chelsea.—A heating-chamber and a coal-cellar, in the area in front of the school on the south side of Marlborough-road, Chelsea (Mr. T. J. Bailey for the School Board for London).—Consent.

Dulwich.—Houses with shops on the site of Nos. 20, 21, and 22, Camberwell Green, Camberwell (Mr. L. Solomon for Mrs. A. Gabriel).—Consent.

Lewisham.—A warehouse on the east side of Rhyme-road, Lewisham, at the corner of Avenue-road (Messrs. Wiltshire & Thurgood for Mr. E. B. Colthurst).—Consent.

Wandsworth.—One-story shop on part of the forecourt of No. 1, Ashlone-terrace, Lower Richmond-road, Putney (Mr. S. G. Warner for Messrs. J. & R. Bailey).—Consent.

Hackney, North.—A warehouse on the north side of Barrett's-grove, Stoke Newington-road, Stoke Newington, at the corner of Cressington-road (Mr. T. J. Wetherall for Messrs. E. Austin & Sons).—Refused.

Hackney, South.—A house with shop on the west side of Chatsworth-road, Lower Clapton, to abut upon Elderfield-road (Mr. J. W. Dunford for Mr. H. Bowler).—Refused.

Brixton.—Twenty houses on the eastern side of Coldharbour-lane, Brixton, at the corner of Vaughan-road, and houses on the eastern side of Vaughan-road (Messrs. Shoebridge & Rising for Mr. J. Pearman).—Refused.

Greenwich.—A coach-house and stable on the west side of Park Villa, Westcombe Park, Greenwich, to abut upon Humber-road (Messrs. Hards & Bradley for Mr. R. Kingston)—Refused.

Islington, South.—A wall and railing to the goods yard on the north side of Barford-street, Liverpool-road, Islington (Mr. R. Venner for the Royal Agricultural Hall Company, Limited).—Refused.

Islington, West.—Buildings at the proposed new tramway depot, No. 321, Holloway-road, Islington (Mr. G. R. Bayliss for the North Metropolitan Tramways Company).—Refused.

Norwood.—A public hall, one-story shops, and houses with shops, on the west side of Norwood-road, West Norwood, between York-road and Harpenden-street (Mr. J. S. Quilter for the freeholders).—Refused.

Camberwell, North.—A building at the rear of Nos. 232, 204, and 206, Camberwell-road, to abut upon Mansion-street (Mr. J. Weir for the Davis Gas Stove Company, Limited).—Refused.

Projections.

Hampstead.—A wood and lead canopy at the entrance to a house in course of erection on the north-east side of Ferncroft-avenue, Hampstead (Mr. W. A. Burr for Mr. J. Tomblin).—Consent.

Holborn.—Oriel windows on the first, second, third, and fourth floor levels, and projecting cornices in front of Nos. 101 to 107, High Holborn (Mr. W. C. Waymouth for Mr. O. Owen).—Consent.

Islington, East.†—The retention of two wood and glass show-cases on the pilasters of Nos. 412 and 414, Holloway-road, Islington (Mr. J. R. Quilter for Mr. T. Lee).—Consent.

Lewisham.—A projecting vestibule and portico at the entrance to No. 10, Leyland-road, Lee (Mr. R. Williams for Mr. A. Gant).—Consent.

Marylebone, East.—A five-story bay window, and balconies on the second, third, and fourth floor levels, in front of No. 7, Harley-street, Marylebone (Mr. R. J. Worley for Mr. J. S. Beale).—Consent.

Paddington, South.—An additional story to the bay window in front of No. 129, Queen's-road, Bayswater (Mr. F. M. Elgood for Mr. H. Lyne).—Consent.

Paddington, South.—A portico at the entrance to No. 6, Westbourne-terrace, Hyde Park (Mr. G. A. Hall for Mr. C. Hunter).—Consent.

Lewisham.—Bay-windows to sixteen houses on the west side and twenty-six houses on the east side of Northwood-road, Forest Hill (Mr. S. Frampton).—Refused.

Paddington, South.—Bay windows on the first, second, third, and fourth floor levels in front of Nos. 111 to 121A (odd numbers only), Queen's-road, Bayswater (Mr. W. J. Gibbon for Mr. H. Gibbon).—Refused.

St. George, Hanover-square.—A projecting iron sign in front of No. 25, Princes-street, Hanover-square (Messrs. E. J. Saunders & Co, for Mr. F. D. Byrne).—Refused.

Width of Way.

Whitechapel.—A one-story addition to the girls' school, All Saints' Schools, Buxton-street (Mr. A. Cox for the managers of All Saints' Schools).—Consent.

Space at Rear.

Kennington.—A modification of the provisions of Part V. of the Act with regard to open spaces about buildings, so far as relates to the erection of a block of residential flats on the site of Rose Cottage, Langley-lane, South Lambeth-road, Lambeth, with an irregular space at the rear (Messrs. Green & Simes for Messrs. F. W. Serff & Co.).—Consent.

Deviation from Certified Plans.

St. George, Hanover-square.—Certain deviations from the plans certified by the District Surveyor, under Section 43 of the Act, so far as relates to the proposed erection of club chambers, with shops on the ground floor, on the site of No. 5, White Horse-street, Piccadilly, and stabling at the rear (Mr. E. H. Sim for Mr. G. H. Tod-Heatly).—Consent.

Finsbury, Central.—Certain deviations from the plan certified by the District Surveyor, under Section 43 of the Act, so far as relates to the proposed rebuilding of No. 178, St. John-street, and of the George public-house, No. 180, St. John-street, Clerkenwell, at the corner of Compton-street (Mr. W. A. Aickman for Mr. H. H. Finch).—Consent.

Lines of Frontage and Width of Way.

St. George, Hanover-square.—A one-story addition to the coach-house at No. 31, Belgrave-mews South, Belgrave-place, St. George, Hanover-square (Messrs. G. Trollope & Sons for Mr. J. W. Todd).—Consent.

Bethnal Green, South-West.—Buildings on the site of Nos. 138 to 148 (even numbers only), Cambridge-road, Bethnal Green, at less than the prescribed distance from the centre of Pelican-passage (Mr. A. Hood for Mr. R. Voss).—Consent.

Islington, West.—An addition in front of No. 10, Windermere-road, Holloway-road, Islington (Mr. F. S. Hammond for Messrs. Knowlman Brothers).—Refused.

St. George, Hanover-square.—A porch at the entrance to St. Mark's Institute, Balderton-street, Oxford-street (Mr. W. B. Pinhey for the Polytechnic Institute).—Refused.

Width of Way and Projections.

Westminster.—An oriel window at the first and second floor levels in front of Nos. 6 and 7, Cowley-street, Westminster (Mr. F. A. Smith).—Consent.

Strand.—An iron and glass shelter at the restaurant entrance to the Garrick Hotel, Charing Cross-road, at the corner of Green-street (Messrs. Saville & Martin for Mr. R. Baker).—Refused.

Width of Way and Space at Rear.

Whitechapel.—A van shelter, with stables over, on the west side of Queen Anne-street, Whitechapel, with an irregular open space at the rear; and of a dwelling-house with an irregular open space at the rear, and forecourt fence within the prescribed distance from the centre of the roadway, on the eastern side of Thomas-street, adjoining such van shelter and stables (Mr. H. McLachlan for Mr. W. Donaldson).—Consent.

Formation of Streets.

Brixton.—That an order be issued to Messrs. Shoebridge & Rising refusing to sanction the formation or laying-out for carriage traffic of a new street, 40 ft. wide, to lead from Coldharbour-lane to Vaughan-road, Brixton (for Mr. J. Pearman).—Agreed.

Wandsworth.—That an order be issued to Messrs. Beadel, Wood, & Co. refusing to sanction the formation or laying-out of new streets for carriage traffic on the south-west side of Streatham High-road, Streatham, adjoining the London, Brighton, and South Coast Railway (for Mr. C. H. C. Du Cane).—Agreed.

Wandsworth.—That an order be issued to Messrs. Marler & Co. refusing to sanction the formation or laying-out of three new streets for carriage traffic on the Furzedown Park Estate, Mitcham-lane, Streatham (for Col. R. J. Aspinall).—Agreed.

Buildings for the Supply of Electricity.

Whitechapel.—The use for one year, as a temporary electricity generating station and works, of buildings at the depôt on the west side of Osborn-street, Whitechapel (Mr. M. W. Jameson for the Board of Works for the Whitechapel District).—Agreed.

Means of Escape from the Top of High Buildings.

Strand.—Means of escape in case of fire proposed to be provided in pursuance of Section 63 of the London Building Act, 1894, on the sixth and seventh stories of a building on the site of Nos. 173 to 179, Strand, and No. 2, Norfolk-street (the upper surfaces of the floors of which stories are about 60 ft. from the street level) for the persons dwelling or employed therein (Messrs. White & Co.).—Consent.

Cubical Extent and Construction of Buildings.

Islington, West.—The rebuilding of the Caledonian Saw Mills, No. 18, New Wharf-road, Caledonian-road, Islington, to exceed in extent 250,000, but not 450,000, cubic feet, and to be used only for the purposes of sawing, planing, and moulding timber (for Messrs. Haggis & Sons).—Consent.

The recommendations marked † are contrary to the views of the Local Authorities.

Correspondence.

To the Editor of THE BUILDER.

THE ARCHITECTURAL MUSEUM.

SIR,—I was recently at the Museum hunting for information as to casts of Gothic work which I could with confidence urge my Committee to purchase for use in the Architectural Classes at the Leeds School of Art.

I was grievously disappointed. The casts are too dirty to tell their value and effect, too much mixed up for comparison; and in most cases they have no information as to locality on them. The numbers—where they exist—do not always agree with the catalogue; and a more neglected and uncared-for museum I have never seen.

If the casts are ever to be of their full value to the profession, it seems to me they should be cleaned up, arranged in proper order of "development," labelled clearly in each case with date and locality, and, above all, put where they could be seen and studied.

As the present management seem unable to do this, perhaps the new Committee—if they find the duty too heavy for them—would hand them over to the Architectural Association, or to the Institute

if the latter can find room. This is their natural place, and by being at headquarters, and being in more frequent use, they would surely never again reach that deplorable condition of muddle that they are in to-day.

There would then be some inducement to add to them a better collection of Classic work, and make it a real museum of architectural casts.

FREDK. MUSTO, A.R.I.B.A.

HARRINGTON HOUSE.

SIR,—With reference to the letter and note which appeared in your issue of the 21st respecting Harrington House, may I say that the original house of this name stood on what is now the garden of Clarence House, adjoining the road from the park to the stable-yard, St. James's Palace.

That house was held by the Harrington family for about 100 years up to 1831, when on the expiry of a lease possession was resumed on behalf of the Crown.

The house was, I think, last used for the accommodation of some of the servants of William IV. on the occasion of his coronation.

On giving up the house in the stable-yard Lord Harrington took Pembroke House (7, Whitehall-gardens) from Lord Pembroke and Montgomery, who held a lease of it from the Crown, and he resided there for about twenty years, during which time it was, I believe, known as "Harrington House." Certainly it was so known in 1843, and I have seen letters from Lord Harrington of that date written from "Harrington House, Whitehall," and I find it referred to by that name in other papers.

It was known again as "Pembroke House" after the Government became tenants of it in 1851.

F. H.

*** In connexion with the subject we may add that owing to an accidental omission in our note to Mr. Rovedino's letter last week, it was made to read as if Carrington House were No. 8, Whitehall-gardens, which is incorrect. The last sentence of our note should have stood "Carrington House was No. 8, Whitehall-yard."—ED.

SPRAYING PLASTER.

SIR,—Can you or any of your readers say if the plastering of walls is done at all by spraying on liquid plaster by means of compressed air through a nozzle or jet in the same way that painting of large surfaces is done. If so, the names of parties doing such work would oblige.

E. R.

BOOKS RECEIVED.

DURER. By H. Knackfuss. Translated by Campbell Dodgson. (H. Grevel & Co.)

OBITUARY.

MR. WILLIAM MARTIN.—We regret to announce the death on the 18th instant, at Birmingham, of Mr. William Martin, architect, aged seventy-one years. Mr. Martin, who was born at Shepton Mallet, was articled to Mr. Plevins, of Birmingham, and having served his apprenticeship became a partner of D. R. Hall. After the dissolution of that firm he took as partner John Henry Chamberlain. The firm of Martin & Chamberlain carried out during a long period a great deal of the extensive architectural work undertaken by the Corporation of Birmingham, and as architects to the School Board took a prominent share in the practical response to the requirements, as regards the provision of school accommodation, of the Elementary Education Acts. Of buildings in and near Birmingham, planned and designed by them, we may cite the New Telephone Exchange at the corners of Newhall and Edmund streets; the Church of St. John the Evangelist, at Sparkhill (1888), and the City of Birmingham Lunatic Asylum at Hollymoor, for which they were selected as the successful competitors in April, 1898, upon the award of Mr. George Hine, the assessor for the competition (which was limited to eight), on behalf of the City Council's Asylums Committee: see our columns of May 7, 1898. After the death of his partner Mr. Martin continued in active practice, and recently took his son into partnership with himself. Under the new style of "Martin & Martin," Mr. William Martin and his son went on with the work for the asylum at Hollymoor, in respect whereof a revised tender for 207,256*l.* was submitted to the City Council four weeks ago. The firm are the architects of the Board Schools in Station-road, Harborne, for which contracts have just been ratified, and of the new Board School in Conway-road, Sparkbrook, which was completed just six months ago by Messrs. W. Whitehead & Sons, contractors, at a calculated cost of 15,000*l.* The latter school buildings have a capacity for 680 boys and girls and 360 infants; their arrangements are similar to those of the new school in Yardley-road. All the rooms are upon the ground floor level, and there are besides two large drill halls, one being for the infants. We may add that Mr. Martin was appointed to act as assessor on behalf of some important competitions, amongst them being the new public offices, with depôt, fire station, mortuary, &c., at Stratford-road, Sparkhill (December, 1898), for which Mr. A. Harrison, of Birmingham, was the successful competitor; and the Sandpits School Board Schools, Gloucester (July, 1898), the first premium being awarded by him to Mr. A. G. Dunn, of Gloucester, whose designs were estimated to cost 20,000*l.*

GENERAL BUILDING NEWS.

FRANCISCAN CHURCH, BISHOPSTON, SOMERSET.—The Bishop of Clifton laid, on the 14th inst., the foundation-stone of the new Franciscan Church of St. Bonaventure, Egerton-road, Bishopston. The site of the new church adjoins the present Friary, and the building will cost about 4,000*l.* It is designed in the Early English style, and will consist of a nave, chancel, side chapels, aisles, baptistery, confessionals, a choir at the west end, and another choir for the friars over the chapel on the Gospel side, pierced with arched openings into the chancel. The nave consists of five bays. The bays at the west end will be flanked by the tower on the Apostle side, and by the baptistery on the Gospel side. The nave is divided from the aisles by an arcading supporting the main principals of the roof, which will have a 48 ft. span, and will cover both nave and aisles. The arches of the nave will be over 30 ft. high, and will be a special feature of the church. The chancel will be divided from the nave by an arch 37 ft. in height, with three lancet windows in the east wall, and two lancets at the side. The nave will have three windows in the bay of the aisles. The confessionals are to be placed on the Gospel side of the church, with openings formed through the aisle wall. The west end of the nave will be pierced with three lancet windows. The entrance door will be in the centre of the nave wall, and there will be a smaller door in the tower opening into the porch. The organ-chamber will be approached by circular stairs built at an angle of the tower. The baptistry is apsidal in form, and will be lighted by a lancet window in each bay. The tower, baptistery, and west-end bay are not included in the present contract of 3,800*l.* The total length of the church when completed will be 90 ft., the width of nave 22 ft., width across the church 48 ft., and height from the floor to roof 50 ft. The church is being built of rubble-stone with Bath stone dressings, and facings of blue stone. It will accommodate about 350. The whole has been designed by Messrs. Pugin & Pugin, including the friary, one wing of which has already been built. The contractors are Messrs. R. W. Wilkins & Sons, of Bristol, and Brother Patrick will act as clerk of the works.

CHURCH OF ST. COLUMB MAJOR, CORNWALL.—The old parish church of St. Columb Major, Cornwall, is about to undergo fresh restoration under the supervision of Mr. G. H. Fellowes Prynne.

SWIMMING-BATHS, ENDELL-STREET, W.C.—At the Vestry Hall of the combined parishes of St. Giles-in-the-Fields and St. George, Bloomsbury, Mr. W. O. E. Meade King, M.Inst.C.E., held a public inquiry on the 10th inst., at the instance of the Local Government Board, concerning the application of these parishes to borrow the sum of 13,000*l.* for the purpose of adding a new swimming-bath, which is to measure 90 ft. by 28 ft., to the present public baths in Endell-street, W.C. The plans, prepared by Messrs. Clarkson, of Great Ormond-street, also provide for the conversion of the two present swimming-baths into one large one.

HOTEL, HUNTLY, ABERDEEN.—A new hotel at the corner of the Square and Castle-street, Huntly, was opened recently. The building is of granite, with freestone facings, and is three stories high, the main frontage being in the Square. The architect was Mr. Robert Duncan, but the building was erected under the superintendence of Mr. John Cameron, architect, of Aberdeen. The contractors were as follows:—Masonry, Mr. Robert Mitchell; carpentry, Mr. P. G. Archibald; painting, Mr. George Mitchell; plumbing, Mr. John Wilson; slating, Mr. Steele; and plastering, Mr. John Logie.

MINING COLLEGE, WIGAN.—The formal inauguration of the erection of a mining and technical college at Wigan took place on the 11th inst. Messrs. Briggs & Wolstenholme, of Liverpool and Blackburn, were the architects, and their design was selected in competition. In January of the present year the building contract was let to Messrs. Joshua Henshaw & Sons, of Liverpool. The new college comprises four floors. The basement is set apart for manual work in wood and metal, for machinery, and for practical metallurgy. The ground floor will have rooms for administration. The first floor will be occupied in part by the upper portion of the Assembly Hall, and the remaining portion will be available as classrooms and lecture theatres in mining, cotton, and other technical subjects. The second or upper floor will be set apart for art in its various branches, to accommodate 150 students at one time, a chemical laboratory for thirty-six students, an electrical laboratory, available also for engineering, for thirty-six students, and a lecture theatre common to both.

THE DUCHESS OF TECK MEMORIAL HOME OF REST FOR WORKING WOMEN AND THE VICTORIA CONVALESCENT HOME FOR SURREY WOMEN.—These homes, erected on the seafront of Bognor, and which were opened by the Duchess of York on the 9th inst., comprise the National Memorial to the Duchess of Teck and the County of Surrey Commemoration of her Majesty's Jubilee. The former home has accommodation for six women and the latter for twenty-one convalescents. The buildings are fireproof throughout, the external walls being erected in two thicknesses with a cavity between. The floors are of Messrs. Fawcett's fireproof construction, and the casements to the window openings are of wrought iron of the manufacture of Messrs. Wenham & Waters. The ornamental wrought-iron work was supplied by Messrs. Hardman & Powell. The ground floor is laid with Duffy's pitch-pine wood-block flooring, and the first floor with yellow deal flooring. The dining and sitting rooms and corridor on the ground floor are heated by hot-water pipes and radiators as well as open fires. These rooms as well as the dormitories on the first floor are ventilated by Boyle's inlet and outlet ventilators, and the doors of the dormitories are also provided with hinged fanlights over for the free circulation of air. The majority of the dormitories are for four beds each, with ample air-space per bed. Both buildings are erected in two floors. The dining-rooms, sitting-rooms, matron's room, kitchen and offices, cloak-rooms, lavatories, &c., being on the ground floor, and the dormitories, servants' and nurses' bedrooms, bathrooms, &c., being on the first floor. All the sitting and dining rooms and dormitories face the south and sea, while the lavatories, bathrooms, servants' bedrooms, &c., look north. In each home there is a wide central corridor running the whole length of the buildings on each floor, with windows at either end. The walls are faced externally with red bricks and terra-cotta, the latter being supplied by the Burmantoft Company. The roof is covered with red Broseley tiles, the style of architecture being a free treatment of Renaissance. The walls are covered internally with "Sirapite" plastering, and the decoration carried out chiefly in Duresco. The buildings have been erected from the designs of Messrs. Lainson & Son, of Brighton, the contractor being Mr. Tate, of Bognor. Quantities were supplied by Mr. A. Boxall, Adelphi.

NEW BATH FOR WOMEN, HORNSEY.—A new bath for women has just been opened in connexion with the Public Baths and Washhouses in Hornsey-road. The extension of the baths, now almost completed, includes the following:—New first-class swimming-bath for women, thirty-seven additional private baths, new establishment laundry, stores, &c., extension of engine-room, additional boilers, engines, &c., two artesian wells, each 450 ft. deep, with pumping machinery, capable of raising 25,000 gallons of water per hour. The new swimming-bath for women has been arranged upon new principles. The generally adopted form of spectators' gallery has been abandoned, and a new one of amphitheatre form adopted; the dressing-boxes being removed from the bath and placed in an adjoining apartment. The architect is Mr. A. Hessell Tiltman, Russell-square, W.C.

SANITARY AND ENGINEERING NEWS

BRIGHOUSE SEWAGE WORKS.—New sewage works have just been opened at Cooper Bridge, Brighouse. The charter of incorporation was granted in August, 1893; Mr. A. M. Fowler, of Manchester, who had been engaged to survey the district, presented his report in February, 1894, and a site for sewage outfall works having been obtained at Cooper Bridge, the contracts were let in 1896. Mr. George Taylor, of Blackburn, has been the principal constructor of the works, the total amount of his contracts having been about 65,000*l.* Smaller contracts bring the expenditure up to 86,000*l.*, and when other works forming the extension of the sewer are completed the total expenditure will be about 105,000*l.* Eight large settling tanks, having a maximum capacity of about 1,100,000 gallons, have been erected, and into these the sewage will fall by natural gravitation, then to undergo treatment by means of lime, &c. As the sewage passes through the tanks the solids will be precipitated, and the effluent waste will be turned on adjacent land, and subsequently, in a purified state, find its way into the river. The filtration area contains about 46 acres, and about one-half of this is at present laid out to receive the sewage. The design of the outfall works has been made with a view to their being adaptable to any kind of chemical treatment which the latest scientific thought may suggest. Substantial buildings, including an engine-house (in which electricity for lighting the premises will be generated by means of a steam engine), two committee rooms, &c., have been erected.

THE STUDENT'S COLUMN.—Our Student's Column article ("Lessons in Electrical Engineering") is held over this week for want of space.

STAINED GLASS AND DECORATION.

NEW WINDOWS BY MR. HOLIDAY.—Mr. Henry Holiday has had two stained glass windows on view at his studio at Hampstead this week. The windows are for a church in New York, where there are already many examples of Mr. Holiday's beautiful art. The subjects of those two are "The Crucifixion" and "The Ascension," and they are to face each other in either transept of the church. Each window is of five lights; each light is complete in itself, but is also an integral part of the general design of the window. The designs are remarkable compositions. Mr. Holiday believes the glass should be subordinate to the architecture, that, therefore, the divisions by mullions in tracery should be accepted as governing the design, which should yet have the unity of a harmonious whole. We are entirely in sympathy with this principle, which is well illustrated in these windows.

FOREIGN.

FRANCE.—The Municipality of Paris have had placed on the Madeleine a marble plaque recording the origin and date of the church (which was in the first instance a "Temple à la Gloire"), and also the names of the architects who were successively employed on it—Constant d'Ivry (1764), Couture (1771), Vignon (1807), and Huvé (1828).——The two pavilions on the Place de la Nation, which form part of the enclosure wall of the Fermiers Généraux, erected in the eighteenth century from the designs of Ledoux, are to be demolished. —— According to custom the annual *envois* of the students at the Villa Medici have been on view at the Ecole des Beaux-Arts. In architecture M. Patouillard exhibits a restoration of the Island of the Tiber, with the monuments of ancient Rome. M. Duquesne has sent a study of the construction of the cupola of the Florence Cathedral, and drawings of various palaces. M. Chifflot sends drawings of the capitals of the temple of Mars Ultor. The collection includes also the drawings and sketches of the late M. Pille.——At the instigation of the "Vieux Paris" Committee the monument to Desaix, which was removed in 1876, has been set up on its old site in the Place Dauphine.——The façade of the larger Art Palais at Paris, towards the Avenue d'Antin, has just been completed by the addition of the two sculpture groups in bronze, after models by M. Peter and the late M. Falguière.

UNITED STATES.—The board of underwriters and the building and fire department of New York have recently been experimenting on wood rendered fireproof by an electric process. It was ascertained that, after being subjected to a temperature of 1,900 deg. Fahr., the wood was but slightly charred.

CANADA.—The Canada Club proposes to put a distinguishing mark, chiefly consisting of a short inscription, upon buildings of historical interest in the Dominion, and have already commenced the work.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS. —Messrs. Welch, Fry, & Skelton, electrical engineers, have removed from 90, London Wall, to "Salisbury House," in the same street.——Messrs. John Stenning & Son, timber merchants, of 11, Clement's-lane, have converted their business into a private company.——Messrs. C. C. Dunkerley & Co., Limited, iron and steel merchants, have removed from 66, Port-street, to new offices and warehouses in Store-street, Great Ancoats-street, Manchester. —— Messrs. Lockerbie & Wilkinson, Limited, of Birmingham and Tipton, announce an issue of 673 shares at par, being balance of unissued capital. Their prospectus will be found in our advertisement pages.

WORKSOP ELECTRIC LIGHTING.—On the 17th inst. Colonel W. Langton Coke, M.Inst., C.E., held an inquiry under the Public Health Act, 1875, and the Electric Lighting Act, 1882, at the Town Hall, Worksop, with respect to the application of the Worksop Urban District Council to borrow 15,570*l.* for purposes of electric lighting. Among those present were Mr. A. B. Mountain, M.I.E.E., of Huddersfield, consulting engineer, and Mr. F. S Whittel, surveyor.

OUR COAL STORE.—At the annual meeting of the Victoria Institute last week, at the Society of Arts House (Sir G. G. Stokes, Bart., F.R.S., in the chair), an address on "Our Coal Reserves at the Close of the Nineteenth Century" was given by Professor Edward Hull. The author said he had selected this subject for the annual address because public attention had recently been directed to the question of our coal reserves, owing chiefly to the increased price of coal and to the unprecedented output of this mineral from British mines, amounting in 1899 to 220,085,000 tons, being about 18,000,000 tons over that of the previous year. Referring to the Royal Coal Commission of 1866, presided over by the late Duke of Argyll, the author stated that the production had doubled since the Report of that Commission was issued in 1870—a result scarcely anticipated by the Commissioners, and the public were inquiring "for how long a period our coal reserves would be able to bear the increasing drain." The author advocated the imposition of an export duty on coal shipped to Continental States, which were taking from us about 40,000,000 tons annually, so as to form a fund towards the relief of our increasing taxation, and he concluded by the proposal for a new Commission on our coal resources, showing the subjects which would require investigation.

THE STRAND IMPROVEMENT.—On the 20th inst., at the Guildhall, Westminster, the case of Guscotte and Mrs. Fanny A. R. Sandwith *v.* the London County Council was decided before Mr. John Troutbeck, sitting as High Bailiff, and a special jury. It was a claim under the Land Clauses Act by the freeholders of the shop and premises, 342, Strand, and Nos. 2, 4, and 6, Catherine-street adjoining, for compensation for the compulsory acquisition of their property for the purposes of the Strand improvement. In opening the claimants' case, Mr. Freeman, Q.C., said the property was owned by several families, and it formed one of the finest business sites to be found in London. It was let on lease to Mr. White, a jeweller, who had occupied the shop at the corner of Catherine-street for thirty-five years. In 1891 Mr. White renewed his lease for twenty-one years, at a rental of 500*l.* per annum for the first seven years, 600*l.* for the second, and 700*l.* for the third seven years. That by no means represented the value of the premises, but he was an old tenant. Then he sublet to other tenants, who paid 550*l.* a year, Mr. White paying the rates and taxes. The learned counsel concluded by saying that his clients claimed for their freehold interest as trustees under marriage settlements, &c., the sum of 24,319*l.* Mr. F. T. Galsworthy, surveyor, of Waterloo-place, Pall Mall, Mr. Edward Bousfield, of Gresham-street, and Mr. Daniel Watney, of The Poultry, having given evidence in support of these figures, Mr. Boyle, in addressing the jury, said that the London County Council recognised that this was an excellent site and a first-class position, but he contended that the outside value was 16,000*l.* Mr. Samuel Walker, surveyor, of Moorgate-street, and Mr. G. H. Glaisher, of St. James's-street, S.W., said they were of opinion that the property was worth 16,508*l.*; and Mr. James Green (Weatherall & Green) put the amount at 16,582*l.* The jury awarded the claimants 21,578*l.*, including 10 per cent. for compulsory sale.

ARCHITECTURAL CLASSES, KING'S COLLEGE.—The following is the list of prize-winners in the Architectural Classes at King's College, conducted by Professor Elsey Smith:—DAY CLASSES.—*Architectural History.*—Gold medal and books, Mr. Harry Prince; silver medal and books, Mr. Gilbert H. Lovegrove. *Architectural Studio.*—Gold medal and books, Mr. H. Austin Leech; silver medal and books, Mr. Harry Prince; bronze medal, Mr. Gilbert H. Lovegrove, and Mr. John Parlett. *Building Construction* (Second year).—Silver medal and books, Mr. J. R. P. Rowley; bronze medal and book), Mr. R. W. Edwards. (First year) silver medal and books, Mr. W. J. Marlow; bronze medal and books, Mr. O. C. Thompson. (Third year) silver medal and book, Mr. H. A. Leech; silver medal and book, Mr. G. H. Lovegrove. *Quantities.*—Silver medal and books, Mr. G. H. Lovegrove. EVENING CLASSES.—*Architectural History.*—Silver medal and books, Mr. Harry Prince; bronze medal and books, Mr. Ralph C. Wills; books, Mr. G. H. Lovegrove. *Architectural Studio.*—Bronze medal and books, Mr. F. A. Sprules. *Building Construction.*—Silver medal and books, Mr. F. Hartnoll; bronze medal and books, Mr. F. J. Jones; books, Mr. C. A. Colyer. *Sanitary Science.*—Alderman Sir Faudell Phillips' medal, Mr. G. H. Spears. *Constructional Drawing-book Prizes.*—(1) Mr. F. J. Jones; (2) Mr. C. H. Wheeler; (3) Mr. A. Bradburn. *Quantities.*—Book prizes: (1) Mr. A. Bradburn; (2) Mr. J. D. Robertson; (3) Mr. A. Miles.

GLOUCESTER AND THE ELECTRIC LIGHT.—The Gloucester electricity supply works and dust destructor were opened recently by the Mayor of Gloucester. The works have been erected by the Corporation at a cost of over 60,000*l.*, and applications for electric light have already been received up to the full capacity of the works. Twenty-three and three-quarter miles of cable have been laid. The system of supply adopted is the continuous current. In the evening the chairman of the Electricity Supply Committee (Councillor Clutterbuck), the consulting engineer (Mr. Robert Hammond), the architect (Mr. H. A. Dancey), and the contractors (Messrs. John Gurney & Son) gave a banquet in honour of the occasion.

EAST LONDON WATERWORKS.—A Select Committee of the House of Lords, presided over by the Earl of Camperdown, sat on the 18th inst. to consider the Bill of the East London Waterworks Company for the construction of additional storage reservoirs and other works, and to authorise the taking of further water from the River Thames in cases of exceptional drought and other emergency. Mr. William B. Bryan, Chief Engineer to the East London Water Company, gave evidence in support of the Bill. He said the company supplied a total population of 1,350,000, which in the Essex portion of the company's area of supply was rapidly increasing. The total storage capacity of the company's reservoirs, constructed or in course of construction, amounted to 2,400,000,000 gallons, and under the Bill power was taken to increase that figure by 5,100,000,000 gallons, making the total 7,500,000,000 gallons. This storage would enable the company to go on till 1919, assuming that the district increased at the rate of 18·2 per cent. Some conversation then took place, as a result of which Mr. Baggallay said he had agreed with Mr. Earle, representing the Middlesex County Council, that the company should be empowered and required to supply water in bulk in case of emergency anywhere in Middlesex, subject first to the requirements of the East London Company's district; secondly, to the consent of any local authority or company authorised by Parliament to supply the part of Middlesex in question; and, thirdly, to there being a physical connection by which the supply could be given. Following on this further opposition by Middlesex was withdrawn, and the preamble of the Bill was passed.

TOURIST GUIDE TO THE CONTINENT.—The Great Eastern Railway Company's sixpenny tourists' guide for holiday-makers may be recommended to travellers. It contains a great deal of information in a small space, accompanied by maps and a number of pretty sketches.

RESTORATION OF VILLAGE CROSS, NORTH LEW, DARTMOOR.—On the 20th inst. at North Lew, a village situated upon the northern fringe of Dartmoor, the Bishop of Bristol, preceded by the choir, and a number of the local clergy in their robes, marched with banners from the parish church to the old preaching cross in the market-place, which has just been restored by Messrs. Harry Hems & Sons, of Exeter, under the superintendence of Mr. G. H. Fellowes Prynne, architect. The cross was originally erected by the missionary Benedictine monks of the Abbey of Saints Mary and Runon at Tavistock, and is in the main of thirteenth century work. The shaft is new, and is formed of a monolith of grey Dartmoor granite.

BAPTIST CHURCH, EAST HAM.—The foundation-stones were laid recently of the new Baptist church now in process of erection at Plashet-grove, East Ham. The building will seat, when completed, a congregation of 1,000, and the cost, including the purchase of the ground, is estimated at about 9,000*l.* Mr. E. Stone is the architect.

CAPITAL AND LABOUR.

STRIKE OF QUARRYMEN, MATLOCK.—One thousand quarrymen, masons, and labourers in the Matlock district have come out on strike for an advance of a halfpenny per hour.

THE PAINTERS' STRIKE AT BLACKPOOL.—Under the Conciliation Act the dispute in the painting and decorating trade at Blackpool has been referred to the Board of Trade. Mr. Wilson Fox, who has just been instrumental in settling a similar dispute at Ulverston, met the interested parties at the Albion Hotel recently, but it is stated that his efforts were unsuccessful, the terms proposed by the masters not finding favour with the men.

LEGAL.

BUILDING DISPUTE AT THE WEST-END.

THE case of Bailey *v.* Lewis came before Mr. Justice Cozens Hardy on the 21st. inst. on a motion on behalf of the trustees of the Portland Estate for an injunction to restrain the defendant from erecting on the site of Hollis-passage any building or erection in breach of covenant.

Mr. Vernon Smith, Q.C., for the plaintiffs, said the passage ran at the back of the house No. 27, Cavendish-square, and the trustees thought it was desirable for the estate that the passage should be kept open. The defendant had got a lease of certain premises in Hollis-street from the trustees, and the lease contained a covenant in the terms that he would not, without the consent of the trustees, erect any buildings or make any alterations on the premises abutting on the passage, and that he would not suffer any trade or business to be carried on on the premises. What the defendant had done was to build a wall across the passage, and had blocked it up in altering his premises. The defendant had got a contract with the trustees for a reversionary lease which provided that the defendant should have the soil of the passage, but that he must not build on it. The defendant was a very large tenant of the trustees, but they felt compelled to ask for an injunction to restrain him from dealing with the passage in a way which was inconsistent with the provisions of his building agreement.

Mr. Eve, Q.C., for the defendant, said that in the course of building it was proposed to connect the two houses, Nos. 18 and 19, Hollis-street, and no one contemplated that the defendant would have to go over the passage by means of a bridge. Every one contemplated having a passage on the ground level, and, having regard to the nature of defendant's business, it was inconceivable that he would have ever accepted a lease of those large premises unless he could go across the passage. Mr. Lewis, in his affidavit, said he had invested upwards of 100,000*l.* in the property, and had paid a few thousands a year in the nature of ground rents to the Portland trustees. He swore that it was intended that the Hollis-street and Cavendish-square buildings should be on the same level, and be practically the same building.

His lordship said that Mr. Lewis's affidavit was a

straightforward one, but he did not allege that there was any agreement in writing to the effect that he should build across the passage. But the defendant would take a good undertaking in damages. His lordship quite admitted that the defendant might have a good case at the trial, but he was wrong on the construction point, and he must grant an injunction until the trial, the plaintiffs undertaking in damages. The costs of the motion to be costs in the action.

IMPORTANT APPLICATION AGAINST THE NATIONAL TELEPHONE COMPANY.

THE case of the Attorney-General *v.* the National Telephone Company came before a Divisional Court of Queen's Bench, composed of Justices Kennedy and Darling, on the 24th inst. It raised the question whether the defendant company had the right to open or break up, within the administrative County of London, any street or public road for the purpose of laying their telegraph wires, &c., without the authority of the Postmaster-General and the consent of the London County Council. The plaintiffs, who sued at the relation of the Attorney-General, asked (1) that it might be declared that the defendants were not entitled to place or maintain any telegraph wires or other apparatus for the purpose of telegraphic or telephonic communication, or to execute any other work within the meaning of the Telegraph Act, 1863, under any part of any street or road within the County of London, or to break open any such street or public road, or to exercise any other of the powers of executing works which are conferred on the Postmaster-General by the Telegraph Acts, 1863 and 1878, without the authority of the Postmaster-General and the consent of the London County Council; (2) That the defendant company might be restrained by injunction from placing or maintaining or proceeding or continuing to place or maintain any telegraph wires, &c., for the purpose of telegraphic or telephonic communication, and from executing or proceeding or continuing to execute any other work within the meaning of the Telegraph Act, 1863, under any street or public road within the County of London, and from opening or breaking up any such street or public road, and from exercising any other powers of executing works conferred on the Postmaster-General by the Telegraph Acts without his authority and the consent of the London County Council for such purpose prescribed by the Telegraph Act, 1892, being duly had and obtained.

The Attorney-General, the Solicitor-General, and Mr. Cassedy appeared in support of the information, and Mr. Joseph Walton, Q.C., and Mr. Roskill for the defendant company.

The Court, by consent, made a declaration in the terms of the first paragraph of the petition, and made an order that defendants should not extend their present system of underground pipes without the consent of the Postmaster-General and the London County Council.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

6,266.—CRANES FOR DREDGERS OR EXCAVATORS: *H. W. F. Cheffins.*—The crane, to be operated from the top instead of the bottom, of a cliff or cutting has an arm pivotted on to its jib and set with guy ropes. From that arm hangs another arm, which carries the excavating bucket, which is pulled by a chain that passes over at the pivot of the former arm. In another form the arm is secured rigidly to the jib, whilst the hanging bucket arm is provided with a rack that gears with a pinion which is driven with an endless chain.

6,311.—ARTIFICIAL STONE: *F. Gehre.*—With pulverised carbonate of lime, in either a compact or a crystalline condition, are mixed boracite, borate of magnesia, or stassfurtite, or their residues respectively, and the admixture is brought into an aqueous solution of chlorides—for instance, the chlorides of zinc, aluminium, magnesium, ammonium, &c.—the filling material consisting of paper fibre treated with boracite, a chloride, and carbonate of lime.

6,330.—WINDOW SASHES: *C. D. Tabor and A. Schraffl.*—A pivot, formed of a headed bolt with a spring that draws it towards the sash, secures the sash to bars that slide between stops; the bolt enters into a horizontal slot cut in a side-plate and when it has been forced down a vertical slot, an inclined portion draws out the bolt's head and the spring is thereupon placed under tension. There are hooks which will drop when the sash is raised, so as to engage with a thimble's inclined lip, and will hold the bars in place when the sashes are lifted for their removal.

6,528.—SIPHONS: *F. M. Sims and F. T. Harrop.*—The siphon's longer leg is trapped at its outlet, and the siphon is provided with a bell-shaped container, which is hung upon the arm of a pivotted lever, whose outer end supports an oscillating weight. After the water rises up to a certain height the bell begins to rise too, and so causes the weight to oscillate. The consequent flush continues until the water has sunk to a level which liberates the bell to overbalance the weight, and the mechanism thereby assumes its normal position.

6,648.—A PIPE-JOINT: *J. Morgan.*—A guide for the spigot-end is supplied by forming an annular projection upon the socket end, a collar fitting upon the spigot; for making the joint a fillet of clay is laid on the spigot and another fillet is turned around the pipe, then grouting is filled in the ring-like shaped space.

6,686.—A CONTRIVANCE FOR WALLS, &C.: *T. Curran.*—Wire lathing has studs and supports which are made of corrugated strips having tongues at their edges which are bent around the edges of other bars and strips, or the corrugated strips may be rivetted to the latter strips and bars; slotted clips secure the studs to the horizontal members, which in the first place are affixed with bent clips or other means to the I-beams or girders; if the corrugations of the strips are fashioned in a sinuous or similar form, nails and other fasteners which are hammered into them can be the more readily bent and locked into place.

6,766.—SINK-TRAPS AND GRATINGS: *J. Duckett & Son, J. Duckett, and A. Duckett.*—The sink-trap, grating, and the sink are made in one piece; an iron band is employed for strengthening the lead waste-pipe's lower end, and in an under-cut recess is secured the nipple on to which a set-screw fastens the waste-pipe: a portion of the channel to the gully is covered over and deepened in order to minimise splashing, whilst the gully itself presents some improvements of that specified in No. 663 of 1893.

6,779.—APPARATUS FOR HEATING WATER: *A. Stacge and C. Tornow.*—For the heating of water by means of a kitchen-range or cooking-stove for general domestic purposes, the inventors join both the water-feed and flow-pipes to a coil whose upper erect ends are joined together with a handle; the coil is disposed so that it shall slide through muffs, which are set in the top of the hood above the range or stove, whilst the coil's bottom turn is laid upon the burning fuel; for use with deep fire-boxes the guiding-muffs are affixed in a metal plate, and the hood is discarded.

6,782.—CHECKS FOR DOORS: *S. Coombs.*—A lever is pivotted within a recess of the jamb of the door; the recess is covered with a plate in which is a slot through which projects a tongue upon the lever; a wedge between the roller and the lever's back presses the tongue outwards, and the wedge is lifted up by means of pressure backwards exerted upon the tongue by the hanging stile as the door is closed, whilst the closing of the door is retarded and slamming is obviated by means of the wedge's friction and weight.

6,832.—CHECK-VALVES: *T. F. Codd.*—The contrivance, which is described as being applicable to water, gas, steam, and other fittings, consists of a flap-valve which is mounted upon an inclined seating made in the pipe and carried upon a pivotted arm. The valve is also provided with either springs or a counter-balancing weight. It can also be made to serve as a stop-valve by attaching a locking lever or some such contrivance to the pivotted arm.

6,858.—SIPHONS: *F. Merrill.*—An exhaustion of the air out of the space between the two lower traps of the siphon causes the siphon's action to be started. In one application of the invention the water is made to overflow into a tipper which is placed within a closed container or chamber from above which a pipe passes to the space between the two traps. In another variation the pipe is bent over into the crown of an auxiliary overflow siphon; and in yet another shape the starting of the principal siphon is effected automatically by means of the discharge of a subsidiary tank wherein is a bell whose crown is joined, with a pipe, to the space already described.

6,874.—ROOF-GLAZING: *T. Evans.*—After they have been laid upon rabbetted rafters so that they shall overlap one another, the panes of glass are made fast, at their lower edges, with spring clips. Split pins that are put through holes made in the central webs and through loops fashioned upon the clips secure the spring clips to the central webs and ribs.

6,894.—A MULTICELLULAR VOLTMETER: *F. G. Townsend, H. A. Wilson, and F. A. McClelland.*—The cells or movable vanes are divided, by insulation, into groups. The springs of a rotating disc switch are connected to the groups in such a manner that either all the parts shall be joined together for co-operation, or some shall be cross-connected and shall exert no action upon the movable axle of the vanes. Cells and vanes of different sizes can be used in one voltmeter. The former consist of half-rounded plates mounted upon insulating bolts and kept apart with short sleeves of metal and ebonite The vanes, which in different cells are set in symmetry upon the axle, are connected electrically with the plates.

6,905.—TRAPS FOR DRAINS: *T. Hughes.*—A vertical inlet is made in one entire piece with the trap, which has also a branch carried out from its side, through which obstructions may be cleared away or removed, and an eye through which a rod or brush can be inserted. The trap's bore is uniform throughout.

6,916.—GEARING FOR CRANES: *F. C. Howell, T. Humpage, and H. I. Jacques.*—The inventors provide a speed-reducing and clutch reversing gearing mechanism for overhead travelling cranes, which are driven with electricity. A reducing train—after the kind specified in No. 20,542 of 1892—gears the motor to the shaft; two bevel wheels are carried on the inclined arms of the train's loose spindle, one of the bevel wheels gearing with a wheel upon the driven shaft, and the other bevel wheel gearing with a pinion upon the motor shaft as well as with a wheel upon the casing that is fitted with a brake band. Of the three pairs of clutch pinions upon the driven shaft, one pair operates the jenny's endless chain, another pair serves to drive the winding-drum in either direction, and the other pair enables the carriage to be moved backwards and forwards.

6,924.—CONSTRUCTION OF WALLS, PARTITIONS, &C.: *F. Chapman.*—Corrugated sheets or pieces of wire, interlaced between the cores during the process of moulding, are devised for strengthening the building-slabs, which are pierced vertically with holes and have half-rounded grooves in their sides for the nails around whose heads liquid plaster is filled in; for flat arches over floors and doorways are used oblique wedge-shaped slabs, to be joined together and maintained in their places with metal rods extending from one wall to another, and the inventor claims that the arches would prove self-sustaining did the floors give way in a fire. The slabs are made of a compound of plaster-of-Paris, a weak solution of glue, cement, &c., and are roughened that they may furnish a holdfast for plaster.

6,934.—TRAPS FOR DRAINS: *E. Haendeler.*—Inside a cone-shaped receiver is hung a similarly shaped silt-box by means of a peripheral flange which is water-trapped. From around the receiver's upper edge is suspended by means of its own flange another cone-shaped trap so as to provide a double seal which shall prevent the escape of gas.

6,944.—A NON-INFLAMMABLE AND NON-CONDUCTING MATERIAL: *H. R. Romney, F. Thame, and Fibrous Materials Syndicate.*—The material is composed of the refuse of cocoa-nut husk mixed in water with certain fibrous substances, such as rag, paper, or wood pulp, asbestos fibre, and mica, magnesium silicate or carbonate, and, it may be, sodium silicate. For making a porous and hard compound should be added a small quantity of lime, and for a plastic fireproof material cocoa-nut husk refuse should be saturated with sodium silicate in solution, and be then treated with acid salts or acids.

MEETINGS.

FRIDAY, JULY 27.

Institution of Junior Engineers.—Visit to the Generating Station and Depot of the Central London Railway, Shepherd's Bush. 6.30 p.m.

SATURDAY, JULY 28.

Architectural Association.—Fourth Summer Visit to Stowe House, near Buckingham.

London and Provincial Builders' Foremen's Association.—1. Visit to Messrs. Holloway Brothers' works, Victoria Wharf, Belvedere-road, Westminster Bridge, 4 p.m. 2. Meeting at the Memorial Hall to transact the usual quarterly business. 7 p.m.

MONDAY, JULY 30.

Sanitary Institute.—Conference at 20, Hanover-square, on the "Housing of the Working Classes." 10 to 1 p.m. (Exhibition of plans, &c., at the Parkes Museum. 2 p.m.) Visits in the afternoon.

TUESDAY, JULY 31.

Sanitary Institute.—Conference on the "Housing of the Working Classes" (concluded).

WEDNESDAY, AUGUST 1.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

July 5.—By G. SWORDER & SONS (at Bishop's Stortford).

Oakley, &c., Essex.—Bollington Hall Farm, 451 a. 3r. 33 p., f.	£5,000

July 9.—By WILLSON & PHILLIPS (on the estate).

Leigh-on-Sea, Essex.—Cliff-rd. West, 116 plots of building land, f.	3,197

July 11.—By BUCKLAND & SONS (at Hungerford).

Kintbury, Berks.—An enclosure of meadow, 2 a. 1 r. 23 p., f.	120
Two freehold cottages	100
Inkpen, Berks.—Enclosures of land, 9 a. 2 r. 34 p., f.	370
A freehold cottage and 1 a.	160
A freehold meadow, 3 a. 0 r. 27 p.	105

July 12.—By RAWLINS & CO. (at Barking).

Barking, Essex.—St. Awdry's-rd., &c., 69 plots of building land, f. (in lots)	2,751

By J. A. EGGAR (at Farnham).

Isington, Hants.—A freehold house, r. 20l.	370
King's Close meadow, 6 a. 0 r. 21 p., f.	940
King's Close copse, 4 a. 1 r. 36 p., f.	135
Blacknest, Hants.—Two freehold cottages	100
Binstead, Hants.—Two freehold cottages	200

By BAXTER, PAYNE, & LEPPER (at Bromley).

Bromley, Kent.—81, Bromley Common, f., e.r. 55l.	525
Plough-rd., a plot of building land, f.	900
3, 4, and 5, Palace-rd., f., r. 55l.	665
45 and 47, Tylney-rd., u.t. 62 yrs., g.r. 8l.	300

By G. FITT & CO. (at North Walsham).

Trunch, Norfolk.—Enclosures of land, 62 a. 0 r. 35 p., f.	1,750
Seven cottages and garden ground, f.	458
Enclosures of land, 14 a., f.	1,400
White House Farm, 146 a. 2 r. 15 p., f. and c.	3,900

July 13.—By E. G. RIGHTON (at Stratford-on-Avon).

Bidford, &c., Warwick.—Little Dorsington and Barton Farms, 382 a. 1 r. 14 p., f. £8,000

By J. HIBBARD & SONS.

Shepherd's Bush.—347, and 349, Goldhawk-road, u.t. 27 yrs., g.r. 10*l.* 10*s.*, r. 31*l.* 900

Clapham.—41, 42, and 44, Richmond-terrace, u.t. 37 yrs., g.r. 22*l.* 10*s.*, r. 132*l.* 945

By JONES, LANG & CO.

Finsbury.—Finsbury-av., f.g.r. 30*l.*, reversion in 79 yrs. 870

City of London.—4, Moorfields, u.t. 16 yrs., g.r. 130*l.*, e.r. 360*l.* 885

By MARK LIELL & SON.

Sidcup, Kent.—Hatherley-rd., Woodside, f., e.r. 60*l.* 1,025

West Ham.—1, 3, 5, and 7, Marcus-st., u.t. 73½ yrs., g.r. 12*l.* 380

Leytonstone.—Montague-rd., &c., four plots of building land, f. 405

Bow.—19, Armagh-rd., f. 405

Regent's Park.—40, Redhill-st., u.t. 25 yrs., g.r. 7*l.*, r. 45*l.* 300

July 14.—By T. W. GAZE (at Norwich).

Tunstall, Norfolk.—The Marsh Farm, 242 a. 3 r. 15 p., f. and c. 5,350

Banham, &c., Norfolk.—Occupation Farm, 110 a. 3 r. 14 p., f. and c. 800

Heath Farm, 96 a. 1 r. 33 p., f. 950

By C. R. MORRIS, SONS, & PEARD (at Taunton).

Bishops Hull, Somerset.—Long Run Estate, 66 a. 3 r. 36 p., f. 6,700

Dinham House Estate, 132 a. 1. 25 p., f. and c. 8,700

The New Inn and 0 a. 3 r. 0 p., f. 1,700

The Cottage and 6 a. 2 r. 36 p., f. 1,010

By SEWELL & BARNES (at Framlingham).

Saxted, Suffolk.—A freehold and copyhold farm, 50 a. 3 r. 14 p. 755

Laxfield, Suffolk.—A freehold farm, 16 a. 3 r. 12 p. 430

By BENTLEY & SONS (at Doncaster).

Park-lane, Yorks.—A freehold farm, 146 a. 2 r. 29 p. 3 550

Moss, Yorks.—A freehold farm, 106 a. 2 r. 26 p. 3,700

Two closes, 17 a. 0 r. 3 p., f. 880

Braithwaite, Yorks.—Two closes, 13 a. 0 r. 15 p., f. 601

By H. J. WAY & SON (at Newport).

Chale, Isle of Wight.—The Clarendon Hotel and 1 a., f., r. 55*l.* 1,450

By WILLSON & PHILLIPS (on the estate).

Southend-on-Sea, Essex.—North-rd., &c., 120 plots of building land, f. 7,408

By FENN & CO. (at Colchester).

Essex.—The Manors or Lordships of Thorpe, Kirkby and Walton within the Soken, with all lands, rights, rents, &c. 2,500

July 16.—By DANN & LUCAS.

Dartford, Kent.—12 and 14, Lowfield-st., f., r. 110*l.* 2,750

Lowfield-st., enclosure of land, 4 a. 3 r. 27 p., f. 1,100

By F. DOD & CO.

Hackney.—221 to 259 (odd), Cassland-rd., f., r. 367*l.* 18*s.* 4,900

Stoke Newington.—56, Rectory-rd., u.t. 70 yrs., g.r. 7*l.*, r. 40*l.* 435

Tottenham.—59, Cornwall-rd., u.t. 50 yrs., g.r. 5*l.* 5*s.*, r. 27*l.* 10*s.* 250

By HARMAN BROS.

Highbury.—33, Grosvenor-rd., u.t. 49½ yrs., g.r. 8*l.* 8*s.*, r. 60*l.* 550

Hackney.—63 and 65, Downs Park-rd., u.t. 61 yrs., g.r. 16*l.*, r. 90*l.* 790

By G. B. HILLIARD & SON.

Southminster, Essex.—Mayland Court Estate (part of), 93 a. 3 r. 4 p., f. 970

Bradwell, Essex.—Blue House Farm, 48 a. 1 r. 39 p., f. 850

By W. R. NICHOLAS & CO.

Barham, Kent.—Out Elmstone and 8 a. 1 r. 0 p., f. 1,700

The Shrubbery and 4 a. 2 r. 0 p., f. 3,500

By T. W. OFFIN.

Bradwell, Essex.—Sandbeach Farm, 290 a. 3 r. 2 p., f. 2,000

By RICHARD AUSTIN & JAMES HARRIS & Sons (at Fareham).

Soberton, Hants.—Various enclosures, 66 a. 2 r. 8 p., f. 1,423

A freehold holding, 36 a. 1 r. 22 p. 550

Rose Cottage and 1 a. 1 r. 9 p., f. 240

East Hoe Farm, 379 a. 1 r. 13 p. f. 5,550

Various enclosures, 39 a. 0 r. 37 p., f. 1,585

The Manor Farm, 228 a. 0 r. 33 p., f. 4,500

Droxford, Hants.—Enclosures of land, 29 a. 2 r. 31 p., f. 850

July 17.—By DEBENHAM, TEWSON, & CO.

New Malden, Surrey.—Malden-rd., the Coombe Neville estate (part of), 73 a. 0 r. 35 p., f. 15,000

Totteridge, Herts.—High-rd., Holme Lodge, and 2 a. 1 r. 15 p., f., r. 105*l.* 2,920

High-rd. Rose Hill and 2 a. 2 r. 22 p., f., r. 165*l.* 8*s.* 3,600

By DAVID BURNETT & CO.

Tooting.—12, St. Cyprian-rd., u.t. 96 yrs., g.r. 6*l.* 260

Stoke Newington.—100, Lordship-rd., u.t. 44 yrs., g.r. 8*l.* 360

By DAVID J. CHATTELL.

Chislehurst, Kent.—Lubbock-rd., Kincraig and 2½ a., f. 4,000

By HAMPTON & SONS.

Maidstone, Kent.—Knightrider-st., the College of All Saints, 2 a., f. 3,850

By RUTLEY, SON, & VINE.

Kentish Town.—218 and 236, Kentish Town-rd., u.t. 48 yrs., g.r. 24*l.*, r. 176*l.* 4*s.* 6*d.* 2,330

103, Carlton-st., u.t. 59½ yrs., g.r. 6*l.*, r. 55*l.* .. 730

By S. CLIFFORD TEE.

Stamford Hill.—No. 97, u.t. 84 yrs., g.r. 15*l.*, r. 100*l.* 1,600

Clapton.—5 and 7, Powerscroft-rd., u.t. 78 yrs., g.r. 14*l.*, r. 70*l.* 775

By G. TROLLOPE & SONS.

Streatham.—3, Rydal-rd., u.t. 80 yrs. g.r. 15*l.*, r. 65*l.* 650

By T. G. WHARTON.

Kentish Town.—48 to 54 (even), Islip-st., u.t. 49 yrs., g.r. 32*l.* 1,390

74 to 80 (even), Peckwater-st., u.t. 43 yrs., g.r. 25*l.* 770

By GARROD, SON, & TURNER (at Ipswich).

Sutton, Suffolk.—The Sutton Hall Estate, 1,306 a. 3 r. 37 p., f. (including tithe rent-charge of 233*l.* 19*s.* 6*d.*) 28,000

The Manor of Sutton Hall, with its rents, rights, royalties, &c. £360

Tithe rent-charge of 55*l.* 15*s.* 660

Ablitt's and 3 a. 2 r. 27 p., f. 265

Hollesley, Suffolk.—The Oxley Marshes, 36 a. 3 r. 0 p., f. 800

By ALFRED RICHARDS (at Tottenham).

Tottenham.—72 to 80 (even), Chestnut-rd., f. 1,220

Shelbourne-rd., Frederick Villa, u.t. 88½ yrs., g.r. 6*l.* 300

225, Park-lane, f., r. 32*l.* 470

Edmonton.—46 and 48, Claremont-st., f. 290

Wood Green.—95 and 97, Lordship-lane, u.t. 63 yrs., g.r. 13*l.* 370

Enfield.—1 and 2, Birkbeck Villas, f. 635

By Messrs. COBB (at Rochester).

Hoo, Kent.—Red Barn and 13 a. 2 r. 30 p., f. 2,400

A fruit plantation, 5 a. 3 r. 34 p., f. 800

Spring Meadow, 9 a. 2 r. 9 p., f. 375

Four cottages and 1 r. 25 p., f. 430

Cliffe, Kent.—Enclosure of land, 15 a., f. 1,052

Rainham, Kent.—Street Field, 19 a. 3 r. 16 p., f.. 3,800

Two freehold cottages and 1 r. 300

Kiln Field and Breaches, 43 a. 1 r. 36 p., f. 3,000

Road Field, 17 a. 1 r. 37 p., f. 2,400

Allen's Enclosure and copse, 14 a. 1 r. 19 p., f.. 2,500

Enclosures of land, 109 a. 2 r. 19 p., f. 9,750

A fruit plantation, 2 a. 3 r. 26 p., f. 600

Queen Court holding, 35 a. 0 r. 35 p., f. 3,150

Enclosures of land, 22 a., f. 2,025

A wharf and plantation, 0 a. 3 r. 27 p., f. 300

Motney Mills Estate, 273 a. 3 r. 10 p., f. 5,000

Enclosures of woodland, 14 a. 3 r. 3 p., f. 300

By BOURNE & SON (at Totnes).

Cornworthy, Devon.—The Broadridge Estate, 220 a. 0 r. 14 p., f. 3,000

Harberton, Devon.—The Ashridge Estate, 107 a. 1 r. 6 p., f. 3,450

By BARKER, CATHIE, & CO. (at Masons' Hall Tavern).

Kingston, Surrey.—Richmond-rd., The Queen's Head p.h., u.t. 26½ yrs., r. 100*l.*, with goodwill 7,300

By J. & S. MOTION (at Masons' Hall Tavern).

Victoria Park.—Bishop's-rd., The Park Hotel, u.t. 53 yrs., g.r. 25*l.*, r. 125*l.* 2,200

July 18.—By ABERCROMBIE & EDMUNDS.

Chiswick.—77, Barrowgate-rd., u.t. 82 yrs., g.r. 14*l.* 17*s.*, r. 65*l.* 850

By FOSTER & CRANFIELD.

Croydon.—4, Moreton-rd., f., r. 65*l.* 800

Old Kent-rd.—140, Peckham Park-rd., u.t. 21 yrs., g.r. 6*l.* 5*s.*, r. 34*l.* 200

By GRAVES & SON.

Westbourne Park.—3 and 8, Durham-ter., u.t. 49 yrs., g.r. 20*l.*, r. 155*l.* 1,055

3, Sunderland-ter., u.t. 49 yrs., g.r. 11*l.*, r. 75*l.* 640

14, Leamington-rd. Villas, u.t. 56 yrs., g.r. 10*l.* 10*s.* 510

By HAROLD GRIFFIN.

Battersea.—13 and 15, Orbell-st., u.t. 77 yrs., g.r. 12*l.* 12*s.* 590

142, New-rd.; also Ceylon Cottage, u.t. 25 yrs., g.r. 5*l.*, r. 52*l.* 230

9, 11, and 13, Kersley-st., u.t. 77 yrs., g.r. 21*l.*, r. 125*l.* 965

116, Latchmere Grove, u.t. 81 yrs., g.r. 3*l.* 210

Putney.—14, Galveston-rd., u.t. 83 yrs., g.r. 7*l.*, r. 35*l.* 355

By HUMBERT & FLINT.

Walkern, &c., Herts.—Finches and Walkern Bury Estate, 716 a. 2 r. 12 p., f. 9,000

The School House and 0 a. 2 r. 23 p., f. 215

Thornborough, Bucks.—Lower End Farm, 112 a. 1 r. 17 p., f. 1,700

Camden Town.—9 to 19 (odd), 54, 56 and 58, Marquis-rd., u.t. 60½ yrs., g.r. 27*l.*, r. 324*l.* ... 3,580

By MULLETT, BOOKER & CO.

Hyde Park.—20, Albion-st., u.t. 25 yrs., g.r. 10*l.*, r. 115*l.* 1,070

14, Albion-st., u.t. 25 yrs., g.r. 10*l.*, r. 95*l.* 940

By F. C. SQUIRE & CO.

St. John's Wood.—18, Springfield-rd., u.t. 37 yrs., g.r. 7*l.*, e.r. 55*l.* 350

By TRAFFORD & CARTER.

Sutton, Surrey.—Carshalton-rd., Rosebank, u.t. 52 yrs., g.r. nil, e.r. 60*l.* 840

Stepney.—67 to 101 (odd), White Horse-lane, and 8, Eastbury-ter., u.t. 6 yrs., g.r. 37*l.* 900

526, Commercial-rd., c., r. 40*l.* 555

66, Shandy-st., f., r. 26*l.* 370

Bow.—236, Bow Common-lane, u.t. 35 yrs., g.r. 3*l.* 250

Mile End.—212, 214, and 216, Jubilee-st., f., r. 105*l.* 930

Plaistow.—Howard's-rd., f.g.r. 12*l.*, reversion in 64 yrs. 280

Mile End.—52 and 54, Leatherdale-st., u.t. 23¾ yrs., g.r. 6*l.* 440

Stepney.—22, East Arbour-st., u.t. 11 yrs., g.r. 2*l.* 10*s.* 135

By SEWELL & BARNES (at Yarmouth).

Ormesby St. Margaret, Norfolk.—A freehold occupation, 43 a. 0 r. 28 p. 1,500

Two enclosures, 14 a. 2 r. 25 p., f. 592

July 19.—By ALDER & CO.

Walworth.—31 to 37 (odd), Boundary-lane, u.t. 50 yrs., g.r. 20*l.* 1,010

Camberwell.—2 and 4, Hardess-st., u.t. 67 yrs., g.r. 9*l.* 530

By H. J. BLISS & SONS.

Notting Hill.—243, Cornwall-rd., u.t. 62 yrs., g.r. 8*l.*, r. 38*l.* 370

Clapton.—Clifden-rd., f.g.r. 10*l.*, reversion in 67 yrs. 265

Bethnal Green.—38 and 40, Sewardstone-rd., u.t. 58 yrs., g.r. 8*l.* 10*s.*, r. 60*l.* 660

Old Ford.—23, Kenilworth-rd., f. 475

Bethnal Green.—16 and 18, Mape-st., u.t. 26 yrs., g.r. 6*l.* 345

57 and 59, Viaduct-st., u.t. 18 yrs., g.r. 6*l.* 15*s.* 240

Harringay.—46, Duckett-rd., u.t. 92 yrs., g.r. 6*l.* 6*s.*, r. 36*l.* 350

Stoke Newington.—16, Wiesbaden-rd., u.t. 92 yrs., g.r. 6*l.* 10*s.*, r. 32*l.* 350

53, 55, and 57, Wiesbaden-rd., u.t. 92 yrs., g.r. 19*l.* 10*s.*, r. 102*l.* 1,022

73, 79, 81, and 85, Wiesbaden-rd., u.t. 92 yrs., g.r. 26*l.*, r. 132*l.* 1,370

By CLIMPSON & JOHNSON.

New Cross.—79, Edward-st., f. 355

47, Shere-rd., u.t. 47 yrs., g.r. 2*l.* 12*s.* 235

34, Mornington-rd., u.t. 33 yrs., g.r. 2*l.* 225

63, Amersham-vale, u.t. 42 yrs., g.r. 3*l.* 10*s.* £310

68, Amersham-vale, u.t. 62 yrs., g.r. 3*l.* 335

By DEBENHAM, TEWSON, & CO.

Southwark.—4, 5, 6, and 7, Vine-yard, f., r. 121*l.* 10*s.* 1,030

Vine-yard, freehold stables and workshop, r. 71*l.* 16*s.* 650

Crouch Hill.—Dickenson-rd., Womersley House and 1 a. 2 r. 26 p., f. 4,500

Ealing.—5, 7, 19, and 21, Warwick-rd., u.t. 63½ yrs., g.r. 62*l.* 4*s.*, r. 280*l.* 10*s.* 3,005

16 and 54, Grange-pk., u.t. 68½ yrs., g.r. 33*l.*, r. 180*l.* 1,850

By FAREBROTHER, ELLIS, & CO.

Epping, Essex.—Hemnall-st., a block of building land, 6 a. 3 r. 21 p., also two residences, r. 50*l.*, f. 1,875

Thornwood Common, Pickard's House and 10 a. 1 r. 37 p., f. and c. 1,340

Romsey, Hants.—Little Woodley Farm, 34 a. 0 r. 32 p., f. 1,800

City of London.—Finsbury Circus, &c., area 18,230 ft., let on building lease for 80 yrs., at per annum 1,500

By W. HALLETT & CO.

Paddington.—3, Bristol-gardens, u.t. 50 yrs., g.r. 8*l.* 10*s.*, e.r. 55*l.* 450

Maida Vale.—22, Warrington-cres., u.t. 58 yrs., g.r. 25*l.*, e.r. 130*l.* 800

By LINNETT & LANE.

Kilburn.—13, 13a, 13b, 13c, 15, 15a, 15b, and 15c, Canterbury-rd., u.t. 58 yrs., g.r. 8*l.* 1,635

13 and 13a, Alpha-pl., u.t. 58 yrs., g.r. 6*l.* 495

3, Willesden-lane, u.t. 37 yrs., g.r. 12*l.* 10*s.*, r. 45*l.* 310

13, 19 to 25 (odd), Cambridge-av., u.t. 58 yrs., g.r. 55*l.*, r. 273*l.* 10*s.* 2,310

76, 81, 85, 86, and 90, Cambridge-rd., u.t. 62 yrs., g.r. 40*l.*, r. 253*l.* 2,365

24, 28, and 30, Granville-rd., u.t. 62 yrs., g.r. 21*l.* 790

5, Percy-rd., u.t. 62 yrs., g.r. 6*l.*, r. 43*l.* 4*s.* 275

4, Cambridge-mews West, u.t. 62 yrs., g.r. 6*l.*, r. 36*l.* 220

1, 2, and 3, Pembroke-mews, u.t. 62 yrs., g.r. 5*l.* 5*s.* 370

Paddington.—21, Howell-st., u.t. 38 yrs., g.r. 7*l.* 7*s.*, r. 30*l.* 235

By C. C. & T. MOORE.

Whitechapel.—4 and 29, Greenfield-st., f. 1,675

By NEWBON, EDWARDS, & SHEPHERD.

Belgravia.—Wilton-cres., i.g.r. 50*l.*, u.t. 23¾ yrs., g.r. 11*l.* 410

Holloway.—1, Russell-rd., u.t. 51 yrs., g.r. 4*l.* 10*s.*, r. 30*l.* 325

Caledonian-rd.—Nos. 88 and 90, u.t. 34 yrs., g.r. 21*l.*, r. 132*l.* 715

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

WOOD.*

Per Petersburg standard hundred.

	£	s.	d.	£	s.	d.
White Sea: first yellow deals	18	0	0	23	0	0
Second do.	16	0	0	18	12	0
Third do.	13	0	0	15	0	0
Battens, 4os., 3os., and 15s. less respectively.						
Petersburg: first yellow deals	15	10	0	19	0	0
Second do.	13	0	0	14	0	0
Battens, 3os. and 2os. less respectively.						
Petersburg, white deals	19	0	0	15	0	0
Do. white battens	11	0	0	12	0	0
Riga, white deals	10	0	0	11	10	0
Swedish mixed yellow deals	16	10	0	21	0	0
,, Third do.	14	10	0	17	0	0
,, Fourth do.	13	0	0	14	10	0
,, Fifth do.	12	0	0	13	10	0
Battens, 3os., 2os., and 10s. less respectively.						
Whitewood, 10 to 20 per cent. less.						
Finnish unsorted yellow deals	21	10	0	12	10	0
Battens, 10s. and 5s. less respectively.						
Whitewood, 5 to 10 per cent. less.						
Norwegian second yellow battens	8	10	0	9	0	0
Third do.	8	0	0	9	0	0
Fourth do.	8	0	0	8	10	0
Whitewood, 10s. less.						
Danzig, Crown Deck deals, per 40 ft. 3 in.	0	15	0	1	5	0
Brack	0	12	0	1	0	0
St. Lawrence Pine deals, &c., per P.S.H.:—						
1st, Bright and Dry, regular sizes	22	0	0	29	0	0
,, ,, oddments	15	10	0	23	0	0
2nd ,, regular sizes	17	10	0	20	0	0
,, ,, oddments	12	0	0	10	10	0
3rd, ,, regular sizes	11	0	0	12	0	0
,, ,, oddments	9	10	0	10	10	0
4th ,, regular sizes	10	0	0	11	0	0
,, ,, oddments	9	0	0	10	0	0
St. Lawrence Spruce deals, &c.						
First, regular sizes	13	0	0	15	0	0
Second ,,	10	10	0	11	0	0
Third ,,	10	5	0	10	10	0
Fourth ,,	9	15	0	10	5	0
Oddments and battens at 20s., 10s., 7s. 6d., and 5s. less respectively.						
New Brunswick Spruce deals, &c.	10	0	0	12	0	0
Oddments, battens, and fourths	9	10	0	10	0	0
United States pitch pine planks and boards	11	10	0	15	0	0

* The prices named are for the wood as imported and landed in the docks. Ten per cent., approximately, should be added in order to arrive at the current trade prices.

[*See also next page*

PRICES CURRENT (*Continued*).

	£ s. d.	£ s. d.
Prepared Boards, per square		
1¼ by 6½ and 7 in. 1st yellow	11 6	16 6
" " and "	11 0	13 6
1 by 6½ and 7 in. 1st "	10 6	13 6
" " white	9 6	10 6
" " and yellow	9 6	11 6
" " white	8 6	9 6
¾ by 6½ & 7 in. 1st & 2nd yellow	8 6	9 6
" " " white	8 0	9 0
¾ by 6½ and 7 in. 1st yellow and white (grooved, tongued, and beaded)	9 0	10 0
¾ by 6½ and 7 in. 2nd yellow and white (ditto)	8 0	9 0
¾ by 6½ and 7 in. 1st yellow and white (ditto)	7 0	8 0
¾ by 6½ and 7 in. 2nd yellow and white (ditto)	6 6	7 6
Narrower widths at 10 per cent. less. 3rd quality at 15 per cent. less than 2nd.		
Dantzig and Memel Fir Timber— per load		
Best middling	3 10 0	3 15 0
Good middling and Second	3 0 0	3 5 0
Common middling	2 15 0	3 0 0
Undersized	2 15 0	3 0 0
Swedish and Norwegian Balks	2 5 0	2 10 0
Baltic Oak Timber—		
Dantzig and Stettin—Large	3 17 6	4 10 0
Small	3 2 6	3 15 0
Quebec Timber per load		
Yellow Pine	4 15 0	6 5 0
Oak	4 0 0	6 0 0
Elm	3 5 0	6 5 0
Ash	3 5 0	4 0 0
Birch	3 17 6	6 5 0
New Brunswick, &c., Birch	3 12 6	4 10 0
American Pitch Pine Timber	2 17 6	4 5 0
Wainscot, per log, 18 cubic ft.—		
Crown (Eng. & Dutch) } nominal	3 0 0	4 0 0
Brack }	2 7 6	3 0 0
Lathwood, per cubic fathom—		
Petersburg	4 0 0	6 10 0
Riga and Dantzig	4 10 0	5 10 0
Norway Poles, per ft. run	0 0 1	0 0 1½
Oak Staves, per mille full size pipe		
Memel, Crown	220 0 0	230 0 0
Brack	190 0 0	200 0 0
Dantzig	165 0 0	175 0 0
Bosnia, single Barrel (nominal)	28 0 0	30 0 0
United States, Pipe	37 10 0	45 0 0
Hogshead, extra heavy and double extra	30 0 0	35 0 0
Indian Teake per load	10 10 0	16 0 0
British Guiana Greenheart	0 0 0	1 0 0
Mahogany, per foot superficial—		
Honduras, cargo average	0 0 4½	0 0 5½
Nicaragua, do.	0 0 4½	0 0 5½
Tabasco, do.	0 0 4½	0 0 6
Mexican, do.	0 0 4	0 0 4½
Panama, do.	0 0 3½	0 0 4
African, do.	0 0 3½	0 0 5
Cuba, do	0 0 6	0 0 8
St. Domingo, do.	0 0 5	0 0 7½
Do. Curls (good to prime)	0 0 9	0 1 3
Walnut. American (logs)	0 2 9	0 4 9
Do. do. (planks and boards)	0 2 0	0 3 6
Italian, per foot superficial	0 0 3	0 0 7½
Black Sea, per ton	6 0 0	12 0 0
Satin Walnut (logs) per foot cube	0 1 0	0 1 6
(planks and boards)	0 1 9	0 3 0
Sequoia (Californian redwood), per foot cube	0 1 9	0 2 0
Whitewood, American (logs)	0 1 4	0 1 9
" " (planks and boards)	0 1 9	0 2 9
Quartered oak " "	0 2 3	0 4 0
Kauri pine (logs)	0 1 9	0 3 0
" " (planks)	0 2 3	0 3 0
Jarrah (planks)	0 2 0	0 2 6
Lancewood spars each, fresh and large	0 5 0	0 7 0
Lancewood spars, ordinary to fair	0 3 0	0 4 0
Degame spars	0 8 0	0 10 0

JOISTS, GIRDERS, &c.

	In London, or delivered to Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	9 7 6	- - -
Compound Girders " "	13 10 0	- - -
Angles, Tees and Channels, ordinary sections	12 10 0	14 10 0
Flitch Plates	12 0 0	0 0 0

METALS.

	£ s. d.	£ s. d.
Iron—Pig, in Scotland ton	3 10 3	- - -
Bar, Welsh, in London	11 0 0	- - -
Do. do. at works in Wales	10 0 0	- - -
Do. Staffordshire, in London	11 5 0	- - -
Copper—Sheets, strong	83 0 0	- - -
Lead—Sheet, English, 6 lbs. per sq. ft. and upwards	19 17 6	- - -
Pipe in coils	20 7 6	- - -
Zinc—		
Vieille Montagne ton	28 0 0	- - -
Silesian	27 10 0	- - -
Tin—English Ingots per lb.	0 1 6	- - -
Solder—Plumbers' "	0 0 7½	- - -
Tinmen's "	0 0 10	- - -
Blowpipe "	0 0 11½	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d. per ft. delivered.
" fourths	2¾d. " "
21 oz. thirds	3½d. " "
" " fourths	3d. " "
26 oz. thirds	4¼d. " "
" " fourths	4d. " "
32 oz. thirds	5¼d. " "
" " fourths	5d. " "
Fluted sheet, 15 oz.	3¼d. " "
" " 21 "	4¼d. " "
½ Hartley's Rolled Plate	3d. " "
⅝ " " "	3¼d. " "
¾ " " "	4d. " "

PRICES CURRENT (*Continued*).

OILS, &c.

	£ s. d.
Raw Linseed Oil in pipes per gallon	0 3 1
" " " in barrels "	0 3 2
" " " in drums "	0 3 4
Boiled " " in pipes "	0 3 4
" " " in barrels "	0 3 5
" " " in drums "	0 3 7
Turpentine, in barrels "	0 2 11
" in drums "	0 3 2
Genuine Ground English White Lead ...per ton	27 0 0
Red Lead, Dry "	24 0 0
Best Linseed Oil Putty per cwt.	0 9 6
Stockholm Tar per barrel	1 7 0

VARNISHES, &c.

	per gallon. £ s. d.
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 6
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 9 0
Berlin Black	0 15 6
Knotting	0 10 0
Best French and Brush Polish	0 12 0

BRICKS, &c.

	s. d.				
Hard Stocks	34 0	per thousand alongside, in river.			
Rough Stocks and Grizzles	30 0	"	"	"	"
Smooth Bright Facing Stocks	38 0	"	"	"	"
Shippers	42 0	"	"	"	"
Flettons	29 6	"	"	at railway depôt.	
Red Wire Cuts	34 0	"	"	"	"
Best Fareham Red	71 6	"	"	"	"
Best Blue Pressed Staffordshire	87 0	"		"	"
Best Stourbridge Fire Bricks	84 6	"	"	"	"
Best White Glazed Stretchers	260 0	"	"	"	"
Headers	240 0	"	"	"	"
Quoins and Bull-nose	340 0	"	"	"	"
Double Headers	320 0	"	"	"	"
Best Dipped Salt Glazed Stretchers and Headers	240 0	"	"	"	"
Quoins and Bull-nose	280 0	"	"	"	"
Double Headers	280 0	per thousand at railway depôt.			
Seconds Quality White and Dipped Salt Glazed	40 0	per thousand less than best.			

	s. d.	
Thames and Pit Sand	7 9	per yard, delivered.
Thames Ballast	8 6	" "
Best Portland Cement	34 0	per ton "
Best Ground Blue Lias Lime	23 6	" "

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	12s. 6d. per yard, delivered.
Stourbridge Fire-clay in sacks, 32s. 6d.	per ton at rly. dpt.

STONE.

	s. d.	
Ancaster in blocks	2 0	per ft. cube, deld. rly. depôt
Bath "	1 7	" "
Beer "	1 6½	" "
Grinshill "	1 10	" "
Brown Portland in blocks	2 2	" "
Darley Dale "	2 1½	" "
Red Corsehill "	2 5	" "
Red Mansfield "	2 4½	" "
Hard York "	2 10	" "
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 7	per ft. super at rly. depôt.
" " 6 in. Rubbed Ditto	2 10½	" "
" " 3 in. sawn both sides slabs (random sizes)	1 3	" "
" " 3 in. self-faced Ditto	0 9	" "

SLATES.

in. in.	£ s. d.			
20×10 best blue Bangor	11 5 0	per 1000 of 1200 at ry. dep.		
" best seconds "	10 15 0	"	"	
16×8 best "	6 2 6	"	"	
20×10 best blue Portmadoc	10 18 0	"	"	
16×8 " "	6 0 0	"	"	
20×10 best Eureka unfading green	11 2 6	"	"	
16×8 " "	6 15 0	"	"	
20×10 Permanent green and Sedan green	10 0 0	"	"	
16×8 " "	5 12 6	"	"	

TILES.

	s. d.			
Best plain red roofing tiles	41 6	per 1,000 at rly. depôt.		
Hip and valley tiles	3 7	per doz.	"	"
Best Broseley tiles	48 6	per 1,000	"	"
Hip and valley tiles	4 0	per doz.	"	"
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000	"	"
Do. ornamental Do.	60 0	"	"	"
Hip tiles	4 0	per doz.	"	"
Valley tiles	3 9	"	"	"
Best Red or Mottled Staffordshire Do. (Peakes)	50 9	per 1,000	"	"
Hip tiles	4 1	per doz.	"	"
Valley tiles	3 8	"	"	"

TO CORRESPONDENTS.

H. C., M. & F. (amounts should have been stated).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BENHAM PARK (near Newbury, Berks).—For model dairy, for the trustees of Sir Richard Sutton Bart. Mr. James H. Money, architect, Newbury, Berks:—

George Elms & Sons (exclusive of dairy appliances)* ..... £2,200.

BROADSTONE (Dorset).—For the erection of a villa, for Dr. C. W. Curtis. Mr. W. Andrew, architect, Alton Office, Parkstone:—

Chinchen & Co.	£1,600	Baker & Pearcey	£1,150
J. W. Cross	1,282	A. & F. Wilson, Parkstone*	1,071
E. S. Griffen	1,265		
E. H. Crabb	1,182		

CAMBORNE.—For additions to villa, Camborne, for Messrs. Holman Bros. Mr. S. Hill, architect, Redruth:—

Turner & Nettell, Camborne* £166

CLOWN (Derbyshire).—For the erection of six cottages, for Mr. J. Radford. Mr. John Allsopp, architect, Worksop:—

G. Norman	£1,529 6 9	John Jackson, Whitwell, Chesterfield*	£1,140 0 0
G. Wright	1,400 0 0		
W. Hall	1,233 0 0		
W. Thomason	1,137 9 0		

DARLINGTON.—For the erection of warehouse, &c., Crown-street, for Messrs. H. Foster & Son:—

Stairmand & Son	£415 0 0
Boyd & Sons	389 15 0
J. W. & M. McKenzie	
W. Jameson	
J. & G. Wharton	£387 0 0*
T. Easby	
T. Lishman	

[All of Darlington.]

GRAYS (Essex).—For supplying and fixing hot water heating to three schools for the Grays Thurrock School Board. Mr. Christopher M. Shiner, architect, 3, Bond-court, Walbrook, E.C., and Grays:—

Shrivell	£815 10 0	Palowkar & Son	£639 0 0
Benham & Son	724 18 9	Russell & Co.	625 0 0
Burroughes & Co.	674 0 0	Worns & Co.*	600 0 0
Bechett Bros.	659 10 0		

GRAYS (Essex).—For supplying and fixing lighting system fittings to the Co-operative Stores for the Grays Co-operative Society, Ltd. Mr. Christopher M. Shiner, architect, 3, Bond-court, Walbrook, E.C., and Grays:—

H. E. Wright*	£229 0	W. Shrivell	£227 10

GRAYS (Essex).—For supplying and fixing new partitions to schools, for the Grays Thurrock School Board. Mr. Christopher M. Shiner, architect, 3, Bond-court, Walbrook, E.C., and Grays:—

J. Brown	£480	H. R. Rons*	£443
H. J. Carter	470		

HARPENDEN.—Villa, Tennyson-road. Mr. Percival C. Blow, architect, St. Albans and Harpenden:—

Philips & Blake	£593 10	Hall	£482 0
Bushell	520 0		

HELSTON.—Additions, Nausloe Mansion House, Helston, for Mr. H. M. Rogers. Mr. Sampson Hill, architect, Redruth:—

W. Roberts, Helston* £770

HENDON.—For the erection of public offices, for the Hendon Urban District Council. Mr. Thomas Henry Watson, architect, 9, Nottingham-place, W. Quantities by Messrs. Leaning & Sons, 28, John-street, W.C.:—

Knight & Son	£12,975	W. Tout	£11,700
Wall & Co.	12,849	Gough & Co.	11,454
Gould & Brand	12,266	Kingerlee & Son, Oxford*	11,369
Collins & Godfrey	11,748		

ILLOGAN.—For the erection of villa, Illogan, for Mr W. Meager. Mr. S. Hill, architect, Redruth:—

Masonry.—S. J. Nicholls, Redruth* £246

Carpentry.—T. Martin, Redruth* 123

[*See also next page.*

ILLOGAN.—For erecting the Bain Memorial, Illogan Mr. S. Hill, architect, Redruth :—
John Odgers, Redruth* £425

IPPLEPEN (Devon).—For the erection of farmhouse, &c., for Mr. R. Meddicott. Mr. S. Segar, architect, Union-street, Newton Abbot :—

H. J. Almond	£1,600 0 0	F. A. A. Stacey	£1,195 0 0
Parker Bros.	1,318 0 0	S. Blatchford	1,090 0 0
W. A. Goss	1,290 0 0	Jos. Edwards, Newton Abbot*	1,038 7 6
P. Horswell	1,247 0 0		
Mitchell & Son	1,236 15 0		

KETTERING.—For the erection of children's home Burton Latimer, for the Guardians. Messrs. Gotch & Saunders, architects, Bank Chambers, Kettering :—

F. Henson	£1,846 0	A. Bamford	£1,575 0
G. Henson	1,772 9	Lewin & Son	1,568 0
Ball	1,758 0	A. Lewis, Isham, Kettering*	1,539 0
Freeman & Son	1,650 0		

LEEDS.—For raising and extending car sheds at Hunslet, for the Corporation. Mr. Thos. Hewson, City Engineer, Municipal Buildings, Leeds. Quantities by Mr. E. J. Silcock, Park-row, Leeds :—

Brickwork.

Isaac Gould, Limited £3,929 14 0

Ironwork.

Clayton, Sons, & Co., Limited 1,130 16 6

LEVERTON (Wilts.).—For building two pairs of labourer's cottages and out offices at Leverton, on the Chilton Lodge Estate, for Sir William Pearce, Bart. Mr. James H. Money, architect, Newbury, Berks :—
George Elms & Sons £909 0 0
Wooldridge & Son, Hungerford 887 11 1

LONDON.—For redecorations to dining rooms, saloon, &c., at Hampden House, St. Pancras, for Hampden House, Limited. Messrs. Salter, Issott, & Salter, architects, St. Pancras :—

Lupton & Sons	£218 0	Marchant & Hirst	£137 0
Vears & Co.	149 0	Gavin Bros.*	119 15

LONDON.—For two artesian wells, pumps, &c., at the New Public Baths, Prince of Wales-road, Kentish Town, for the Parish of St. Pancras. Messrs. T. W. Aldwinckle & Sons, architects :—

Tilley & Sons	£8,307	Le Grand & Sutcliff*	£4,735
Ister & Co.	5,277		

LONDON.—For the erection of eleven shops and dwellings in High-road, Kilburn, for Mr. J. Druce. Mr. C. Wisher, architect, Wellesley-road, Leytonstone :—

Livett	£12,050	Babbs*	£11,000
Gregory	11,095	Cook	10,087
Amos	11,030		

LOWESTOFT.—For the erection of the Gunton Cliff Hotel (basement only). Mr. Herbert J. Green, architect and surveyor, 31, Castle Meadow, Norwich :—

Shillitoe & Sons	£3,178	Youngs & Son	£2,518
Cornish & Gaymer	2,890	J. S. Smith, Norwich*	2,455
Johnson & Co., Ltd.	2,794		

NELSON (LANCS.).—For the conversion of a house into Council offices; erection of a fire station, &c., for the Brierfield Urban District Council. Mr. J. T. Landless, C.E., Station-buildings, Nelson :—

Masonry.—Benjamin Taylor, Brierfield	£1,526 11 6
Joinery.—Thos. Boothman, Brierfield	478 1 9
Plumbing.—John Hargreaves, Nelson	225 0 0
Plastering.—Richard Guest, Brierfield	130 0 0
Concreting.—Richard Guest, Brierfield	80 0 0
Slating.—Wm. Stanworth, Burnley	113 11 0

NOTTINGHAM.—For the erection of a house, Sherwood, for Mr. S. Clarke. Messrs. Collyer & Slater, architects, 8, Bridleswith-gate, Nottingham. Quantities by architects :—

Cooper & Son, Ltd.	£685 0 0	G. Hoyes	£592 5 0
Oates & Bulling	680 0 0	A. G. Bell	585 0 0
J. W. Boyfield	667 0 0	T. Cuthbert	585 0 0
A. Eite	657 0 6	T. Long	585 0 0
Hotching & Co.	649 10 0	W. Maule	575 10 0
F. Hawkins	649 10 0	J. Whittaker, Pindars House-road*	570 0 0
Scott & Son	610 0 0	J. Musson	559 0 0
J. Kershaw	597 7 6		

[All of Nottingham.]

Plumber's Work.

W. Levers	£72 10 5	C. E. Pindar, Hartley-road*	£63 0 0
J. Mansfield	65 0 0		
J. W. Bull	64 0 0		

RAUNDS (Northants).—For the erection of shops and stores, for the Co-operative Society. Messrs. Sharman & Archer, architects, Wellingborough. Quantities by the architects :—

R. Marriott	£2,100 0 0	Kettering Co-operative Builders, Kettering*	£1,937 0 0
Smith & Son	2,090 0 0		
Brown & Son	2,052 12 6		
G. Henson	2,050 0 0		
W. Goodman	1,998 0 0		

REDRUTH (Cornwall).—For additions, &c., to Lanyon House, Gwinnear. Mr. Sampson Hill, architect, Greenlane, Redruth :—
W. Jenkin, Leedstown* £320

RUSHDEN.—For additions to shoe factory, Station-road, Rushden, for Messrs. Jaques & Clark. Messrs. Mosley & Scrivener, architects, Northampton :—

T. Swindall	£1,999 0 0	T. Willmott, junr.	£1,897 0 0
F. Allwright	1,998 9 0	Hacksley Bros.	1,869 0 0
H. Sparrow	1,980 0 0	Whittington & Tomlin	1,847 0 0
J. M. Panting	1,980 0 0	E. Mitchell	1,823 14 0
G. Henson	1,978 12 6	R. Marriott, Rushden*	1,810 0 0
Walker & Everard	1,975 0 0		
Beardsmore	1,925 0 0		

RYDE.—For villa at Beachland, Ryde, for Mr. Edmund Ward. Mr. John J. Barton, architect, Ryde :—

Wheeler Bros.	£1,159 0	J. Whitewood, Ryde*	£998 10
Barton	1,070 0		

ST. ALBANS.—Four residences, London-road, St. Albans. Mr. Percival C. Blow, architect, St. Albans and Harpenden :—

Miskin & Son	£3,976	E. Dunham	£3,810

ST. ALBANS.—Two pairs of villas, Clarence-road. Mr. Percival C. Blow, architect, St. Albans and Harpenden :—

Whibley & Jervis	£3,730	Dunham	£3,590
Bushell	3,644		

WENDRON.—For erecting a Bible Christian chapel, Carnkie, Wendron. Mr. S. Hill, architect, Redruth :—
W. H. Moyle, Chacewater, Scorrier* £709
[Trustees are providing all stone, including dressed granite.]

WEYHILL (Hampshire).—For additions to Weyhill House, for Captain Smith. Mr. James H. Money, architect, Newbury, Berks :—
Sydney Bell, Andover* £727 6 4

LONDON SCHOOL BOARD TENDERS.

AT the last meeting of the London School Board, the Works Committee submitted the following list of tenders. Mr. T. J. Bailey is the Board's Architect :—

BATH-STREET SCHOOL, CITY-ROAD.—Overhauling heating apparatus, &c. :—

J. Grundy	£393
G. & E. Bradley	350
Brightside Foundry and Engineering Co., Ltd.	325
J. Esson	279
Defries & Sons, Ltd.†	215

BLOOMFIELD-ROAD HIGHER GRADE SCHOOL (Plumstead).—Re-arranging heating apparatus :—

Seward & Co.	£96 0	Wenham & Waters, Ltd.	£52 0
Paragon Heating Co.	80 0	Morris & Co.	47 10
Wontner-Smith, Gray, & Co.	80 0	J. Grundy	44 0
Cannon & Sons	75 0	L. Hill†	35 0

BYRON AND BRIGHT-STREET SCHOOL (Bromley).—Works to heating apparatus :—

Defries & Sons, Ltd.	£648 10	Dargue, Griffiths, & Co., Ltd.	£487 0
Cannon & Sons	599 0	Wenham & Waters, Ltd.	486 0
J. Esson	556 0	Duffield & Sons†	402 0
J. & F. May	513 0		
J. Grundy	497 0		

CAMDEN-STREET SCHOOL (Camden Town).—For heating apparatus :—

Kite & Co.	£85 0	Wontner Smith, Gray, & Co.	£39 0
G. Davis	62 0	Palowkar & Sons	38 10
Morris & Co.	44 0	Knight & Sons†	28 0
G. & E. Bradley	39 10		

CASSLAND-ROAD SITE, WELL-STREET, HACKNEY.—New higher grade school. This higher grade school of four stories will contain two halls—one on the ground floor and one on the first floor—each having an area of about 1,700 super ft., and also the following accommodation :—Ground floor—Three classrooms of 48 and three classrooms of 40. First floor—Three classrooms of 48 and three classrooms of 40. Second floor—Two classrooms of 56 and three of 48; Gymnasium, area 1,744 super ft., with dressing-rooms and store for gymnastic apparatus. Third floor—Chemical laboratory, area 803 super ft.; physical laboratory, area 723 super ft.; lecture-room, area 745 super ft.; drawing classroom, area 1,336 super ft.; clay modelling-room, area 551 super ft.; needlework-room, area 547 super ft., with stockrooms for chemicals and teachers' rooms. Also a manual training centre for 40 boys, containing an area of about 1,507 sq. ft. A propulsion system of heating and ventilation will be provided, and also covered playgrounds for boys and girls, the area of the playgrounds being :—Girls, 10,290 super ft. = 26 ft. per scholar; boys, 9,610 super ft. = 24 ft. per scholar. Area of site, 35,755 sq. ft. :—

		If Walls of Classrooms and Halls be Plastered add
Chessum & Sons	£33,821 17	‡
Leslie & Co., Ltd.	33,629 0	£324 0
Miskin & Sons	31,674 0	344 0
Perry & Co.	31,420 0	410 0
Munday & Sons	31,289 0	—
Clarke & Bracey	31,250 0	—
Kirk & Randall	31,250 0	374 0
F. & F. J. Wood	31,198 0	—
Williams & Son	31,120 0	354 0
J. & M. Patrick	31,109 0	—
Grover & Son	30,835 0	387 0
Lawrance & Sons	30,594 0	362 0
Treasure & Son	30,441 0	352 9
C. Cox†	30,479 0	348 0

‡ Amount included in tender of contractors.

CHARING CROSS-ROAD SCHOOL.—Electric Lighting :—

		A
Comyn Ching & Co.	£339 0 0	£2 5 0
Drake & Gorham	254 2 6	1 8 0
Hodgson & Co.	247 8 0	1 7 0
Peto & Radford, Ltd.	216 0 0	1 5 6
Weston & Co.	208 1 0	1 8 6
Palmer & Watson†	163 0 0	1 2 0

A—Rate per lamp at which any additions or deductions made during the progress of the work are to be calculated including switch and plain pendant.

COBOURG-ROAD SCHOOL (Old Kent-road).—For new boiler, &c. :—

Cannon & Sons	£219 0	Knight & Sons	£117 0
Wenham & Waters, Ltd.	156 0	Lewis Hill†	106 10

COOK'S-GROUND AND GIPSY-ROAD SCHOOLS. Repairs to furniture :—

(a) Chelsea—Cook's-ground School.

T. Cruwys	£175 0 0	London School Furniture Co.†	£156 18 8
H. Bouneau	170 0 0		
Hammer & Co., Ltd.	160 0 0		

(b) West Lambeth—Gipsy-road School.

H. Bouneau	£120 10 0	London School Furniture Co.	£106 6 3
T. Cruwys	115 0 0	Hammer & Co., Ltd.†	96 0 0

"CUBITT TOWN" SCHOOL (Poplar).—Stone staircase, partitions, &c.—Continuing the girls' stone staircase from the first floor to second floor, including alterations to framing, lavatory basins, &c. Altering position of an existing partition, and providing a new partition in order to re-divide classrooms A and B of the infants' department into three rooms :—

Gibb & Co.	£780	T. H. Jackson	£430
E. Proctor	500	Barrett & Power	420
G. Barker	450	J. Kybett*	406

CURTAIN-ROAD (Shoreditch).—Additional heating :—

C. Kite & Co.	£135 0	Stevens & Sons	£84 0
W. G. Cannon & Sons	93 0	W. Simmons	73 6
Comyn, Ching, & Co.	89 15	Palowkar & Sons	73 0
		A. A. Morris & Co.†	65 10

DREADNOUGHT-STREET SCHOOL, GREENWICH MARSH.—Additional heating surface :—

Bates & Sons	£190	Paragon Heating Co.	£106 0
J. & F. May	175	Knight & Sons	96 0
Stevens & Sons	173	Wenham & Waters, Ltd.†	88 16
Strode & Co.	149		
Duffield & Sons	117		

EARL-STREET SCHOOL, PLUMSTEAD.—Additional heating surface :—

J. Esson	£355 10	Defries & Sons, Ltd.	£253 0
J. Grundy	303 0	Paragon Heating Co.†	230 0
Cannon & Sons	299 0		

ENFIELD-ROAD SCHOOL (De Beauvoir Town).—Additional heating :—

Comyn, Ching & Co.	£127 10	Russell & Co.	£94 0
G. Davis	125 0	W. Simmons	76 0
Palowkar & Sons	104 0	Wenham & Waters, Limited†	66 0
Knight & Sons	96 0		

"FOX" SCHOOL, SILVER-STREET, KENSINGTON.—For partition, &c., in infants' department :—

Lathey Bros.	£235 0	R. S. Buckeridge	£176 10
W. R. & A. Hide	195 10	S. Polden†	164 0

FULHAM PALACE-ROAD SITE.—New School.—The school is a three-story building, and contains the following accommodation :—Halls—Boys', girls', and infants' departments, each 54 ft. by 32 ft. Classrooms—Boys', girls', and infants' departments, each 60, 60, 56, 56, 48, 40, 40. Drawing classroom, 1,400 ft. area. Heating by low-pressure hot-water apparatus. Area of site, 50,810 square feet. Playgrounds, area per child—Boys', 45 square feet; girls' and infants', 34 square feet; a schoolkeeper's house is also included in the plans :—

Leslie & Co., Ltd.	£31,308	Stimpson & Co.	£28,820
Simpson & Son	30,388	Johnson & Co., Ltd.	28,668
Miskin & Sons	30,073	C. Cox	28,500
Lawrance & Sons	29,794	Martin, Wells, & Co.	28,053
Treasure & Son	29,496	Wallis & Sons†	27,844
C. Wall	29,100		
J. Carmichael	29,048		

HACKNEY U.—New School in Wood-close.—Heating apparatus :—

Cannon & Sons	£849 0	Brightside Foundry & Engineering Co., Limited	£645 0
J. & F. May	682 0	Duffield & Sons	560 0
Dargue, Griffiths & Co., Limited	681 11	Turner & Co.	555 0
Wippell Bros. & Row	675 0	The Paragon Heating Co.†	499 0
J. Esson	668 0		
J. Grundy	660 0		

HASELTINE-ROAD SCHOOL, LOWER SYDENHAM.—For new boiler :—

Brightside Foundry and Engineering Co., Ltd.	£315	Kite & Co.	£175
G. & E. Bradley	185	J. & F. May	165
		J. Grundy	93
		Morris & Co.†	92

HOLLYDALE-ROAD SCHOOL (Nunhead).—For science room, &c. :—

E. B. Tucker	£340	London School Furniture Co.	£249
Rice & Son	325	G. Kemp*	190
General Builders, Ltd.	279		

[See also next page.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
School Buildings	Machynlleth School Board	30*l.*	Aug. 18

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
*Repairs at Infirmary, Mayday-road, Thornton Heath	Croydon Guardians	F. West, Surveyor, 23, Coombe-road, Croydon	July 30
*Kerbing, Tarpaving, &c., Chalsey-road, Brockley	Lewisham Board of Works	Surveyor's Department, Town Hall, Catford, S.E.	July 31
*Kerbing, Tarpaving, &c., Eastern-road, Brockley	do.	do.	do.
*Kerbing, Tarpaving, &c., Pattenden-road, Catford	do.	do.	do.
*Kerbing, Tarpaving, &c., Pascoe-road, Lewisham	do.	do.	do.
Warehouse, Hammerton-street	Bradford Corporation	J. H. Cox, Surveyor, Town Hall, Bradford	do.
Additions, &c., The Cottage, Exmouth	Mr. A. J. Darke	P. Kerley, Architect, Exmouth	do.
Additions, &c., to Roath Abattoirs	Cardiff Corporation	W. Harpur, Civil Engineer, Town Hall, Cardiff	do.
School, Gowerton, Glam.	Mr. E. Gardner	J. B. Morgan, Architect, Llanelly	do.
Alterations to House, Clark-street, Morecambe		A. L. Lang, Architect, 12A, Pedder-street, Morecambe	do.
*St. Anne's Depôt in Horse and Dolphin Yard, Soho	Strand Board of Works	Surveyor, 5, Tavistock-street, Covent Garden, W.C.	Aug. 1
Service Reservoir, &c.	Shipston-on-Stour R.D.C.	J. E. Willcox, Civil Engineer, 63, Temple-row, Birmingham	do.
Making-up Marian-road, &c., Mitcham	Croydon R.D.C.	J. Wilson, Town Hall, Croydon	do.
Granite Road Metal	New Winchester R.D.C.	W. D. Statham, Surveyor, 2, St. James-street, Winchester	do.
Waterworks	Cowdenbeath (N.B.) Police Comrs.	Buchanan & Bennett, Civil Engineers, 12, Hill-street, Edinburgh	do.
Alterations to Schools, Miskin and Beddau	Llantrissant School Board	J. C. Jones, St. Catherine-street, Pontypridd	do.
Additions to Fire Station	Belfast Town Council	W. J. Moore, Architect, Ann-street, Belfast	do.
Building Work, St. Mary's Church, Ipswich		E. F. Bishopp, Architect, 32, Museum-street, Ipswich	do.
Building at Sewage Farm	Rushden (Northants) U.D.C.	W. B. Madin, Civil Engineer, Vestry Hall, Rushden	do.
School, Northwood	Hanley School Board	E. R. Scrivener, Architect, Howard-place, Hanley	Aug. 2
Hospital and Other Buildings	Barry (Glam.) U.D.C.	J. C. Pardoe, Civil Engineer, Council Offices, Barry	do.
Extension of Electricity Works, Valley-road	Bradford Corporation	Mawson & Hudson, Architects, Exchange, Bradford	do.
Earthenware Pipe Sewers	Leamington Corporation	W. de Normanville, Borough Engineer, Town Hall, Leamington	do.
Timber Wharfing, Beeleigh Abbey, Essex		F. Whitmore, Architect, Chelmsford	do.
Laundry Buildings and Chapel	Cowley (Oxon) Guardians	W. H. Castle, Surveyor, Town Hall, Oxford	do.
Six Houses, Creigian, Wales	Mr. O. Hawkins	R. L. Evans, Architect, Windsor-place, Cardiff	do.
*Hot Water Supply and Heating Mill, Bingley	Croydon R.D.C.	R. M. Chart, Surveyor, Union Bank Chambers, Croydon	do.
Congregational Church, Barry Dock, Glam.	Sharp's Trustees	W. R. Nunns, Architect, Market-street, Bingley	Aug. 3
Additions to Schools, Pindochty, &c., Buckie, N.B.	Rathven School Board	G. Thomas, Architect, Queen's Chambers, Cardiff	do.
*New Vicarage House at Coalbrookdale, Shropshire		J. Macdonald, 4, East Church-street, Buckie	do.
Two Cottages, near Electricity Station	Bury St. Edmunds Town Council	Vicarage, Coalbrookdale	Aug. 4
High Chimney, Road-making, &c.	Radcliffe (Lancs.) U.D.C.	J. C. Smith, Borough Surveyor, Town Hall	do.
Stoneware Pipe Sewers, St. Budeaux, Devonport		J. Sharples, Council Offices, Radcliffe	do.
*Girls' School	Ashby-de-la-Zouch Grammar Sch.	J. F. Burns, Borough Surveyor, Devonport	do.
*Sewers	Romford U.D.C.	Barrowcliff & Allcock, Architects, Loughborough	do.
*Sewerage Works	Blaby R.D.C.	See Advertisement	do.
Cottage	Armagh U.D.C.	J. B. Everard, Engineer, 6, Millstone-lane, Leicester	Aug. 6
Sewerage Works, &c.	Tiverton R.D.C.	J. C. Boyle, Armagh	do.
Cast-iron Mains and Laying, near Canterbury	Blean R.D.C.	Cameron & Co., Civil Engineers, Bedford-circus, Exeter	do.
Reservoir Embankment, West Baldwin Valley	Douglas Corporation	H. T. Sidwell, Civil Engineer, Herne Street, near Canterbury	Aug. 7
*Making-up Boar's Head Yard	Brentford U.D.C.	G. H. Hill & Sons, Engineers, 5, Victoria-street, S.W.	do.
*Water Supply	Isle of Wight R.D.C.	N. Carr, Surveyor, Clifden House, Boston-road, Brentford	do.
100 Houses, Streets, &c., Blaydon-on-Tyne	N. E. Ry. Co.	F. Newman & Cocks, Civil Engineers, Ryde	Aug. 8
*Drainage Work	Islington Guardians	W. Bell, Architect, Central Station, Newcastle-on-Tyne	do.
Refuse Destructor	Royal Leamington Spa Corp.	W. Smith, Architect, 65, Chancery-lane, W.C.	Aug. 9
House, &c., Aughebrach, Donemana, Ireland	Rev. J. M'Glinchey	W. de Normanville, Engineer, Town Hall, Leamington Spa	Aug. 11
Telegraph Cable (8,272 miles) & laying in Pacific Ocean	H.M. Government, &c.	E. J. Toye, Architect, Strand, Londonderry	do.
*Works at Cottage Homes and Schools	Isle of Thanet Guardians	Clark, Forde, & Taylor, 4, Great Winchester-street, E.C.	Aug. 14
Main Sewerage Works	Newport Pagnell R.D.C.	See Advertisement	Aug. 15
*Schools	Croydon School Board	D. Balfour & Son, Civil Engineers, 1, Victoria-street, S.W.	Aug. 21
School Buildings and Offices, Gislingham, near Eye	Messrs. D. Little & Co.	See Advertisement	No date
Additions to the Cairn Hydro., Harrogate		H. B. Ellis, Gislingham	do.
Factory, York-place, Leeds		Bland & Bown, Architects, Harrogate	do.
Shop and Storerooms, Bridge-street, Leeds		A. Neill, Architect, Leeds	do.
Villa, Newtownbreda, Belfast		H. B. Buckley, Architect, 85, Commercial-street, Batley	do.
Hotel (The Fountains Abbey) and Stabling, Ripon		J. J. M'Donnell, Architect, 27, Chichester-street, Belfast	do.
Residence, Westcliffe-on-Sea	Mr. R. Chadwick	A. A. Gibson, Architect, Yorkshire Bank Chambers, Harrogate	do.
Additions to Warehouse, Saville-street, Leeds	Messrs. R. S. Brownhill & Sons, Ltd.	Greenhalgh & Brockbank, Architects, Southend-on-Sea	do.
		G. F. Danby, Architect, 10, Park-row, Leeds	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Clerk of Works	Hendon U.D.C.	4*l.* 4*s.* per week	July 30
*Clerk of Works	Taunton Corporation	3*l.* 3*s.* per week	Aug. 4
*Architectural and Engineering Assistant	York Corporation	150*l.* per annum	do.

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, p. —. *Contracts*, pp. iv. vi. viii. x. & xx. *Public Appointments*, pp. xviii. & xx.

MARLBOROUGH-STREET SCHOOL (Blackfriars). Repairing furniture :—

London School Furniture Co.	£148 10	H. Bouneau	£132 10
Hammer & Co., Ltd.	134 0	T. Cruwys	129 0

MONSON-ROAD SCHOOL (Hatcham) and HOLDEN-STREET SCHOOL (Battersea).—Repairs to furniture :—

(i.) *Greenwich—Monson-road* (altering desks, &c.) :—

T. Cruwys	£24 6	London School Furniture Co.†	£20 5
H. Bouneau	22 19		
Hammer & Co., Ltd.	22 0		

(ii.) *West Lambeth—Holden-street* :—

London School Furniture Co.	£17 2	H. Bouneau	£16 16
		T. Cruwys†	16 10

MIDWAY-PLACE SCHOOL (Rotherhithe).—Additional heating surface :—

Harlow & Sons	£247 17	Wippell Bros. & Row†	£185 0
Cannon & Sons	243 0		

MONTEITH-ROAD SCHOOL (Old Ford-road).—For new boiler, &c. :—

Williams & Sons, Ltd.	£375	J. & F. May	£310
Paragon Heating Co.	359	J. Grundy	297
Wippell Bros. & Row	355	Duffield & Sons	260
Oldroyd & Co., Ltd.	332	G. & E. Bradley†	259

PRIORY-GROVE SCHOOL (South Lambeth).—Reconstructing boiler flue :—

H. & G. Mallett	£143 0	Rockhill Bros.	£128 10
Maxwell Bros., Ltd.	130 0	Rice & Son	126 0
B. E. Nightingale	130 0	J. Garrett & Son*	124 0

NEW-ROAD SCHOOL (Wandsworth).—Partitions, &c. :—

H. & G. Mallett	£459	Lathey Bros.	£398
Rice & Son	440	R. S. Ronald	383
W. Hammond	439	E. B. Tucker*	354
Maxwell Bros., Ltd.	439		

NORTHEY-STREET SCHOOL (Limehouse).—Boiler and additional heating works :—

Stevens & Sons	£115 0	Wenham & Waters, Ltd.	£94 0
Knight & Sons	106 0	Palowkar & Sons	91 10
Wontner-Smith, Gray, & Co.	102 0	G. Davis	75 0
		Morris & Co.†	74 10

[See also next page.

RUNNING CONTRACT FOR THE SUPPLY OF TIMBER FOR MANUAL TRAINING CENTRES.

Description and Sizes.		Farquharson, Bros., & Co.	W. & J. R. Hunter.	J. Latham, Limited.†	London School Furniture Company.	W. Mallinson & Co.
Silver birch (from 3 in. to 4 in. wide)—		s. d.	s. d.	s. d.	s. d.	s. d.
2 in.	per ft. super.	..	..	0 10	1 0	0 10
1½ in.	,,	..	..	0 7½	0 9	0 7½
1 in.	,,	..	..	0 5	0 6	0 5½
¾ in.	,,	..	..	0 4½	0 5½	0 4½
½ in.	,,	..	..	0 3	0 5	0 3½
¼ in.	,,	..	..	0 2½	0 4½	0 3½
Mahogany, Honduras (not less than 8 in. wide)—						
½ in.	per ft. super.	0 3½	0 3½	0 3	0 4½	0 6
¼ in.	,,	0 2½	0 2½	0 2½	0 3½	0 4

PROSPECT-TERRACE SCHOOL (Gray's Inn-road).—Overhauling heating apparatus, &c. :—

Kite & Co.	£450	G. & E. Bradley	£225
Morris & Co.	382	J. Eason	205
J. Grundy	379	Cannon & Sons	189
Brightside Foundry and Engineering Co., Ltd.	290	Duffield & Sons†	130

ROMAN-ROAD SCHOOL (Bow).—Alterations to heating apparatus :—

Cannon & Sons	£72 0 0	Wenham & Waters, Limited	£49 0 0
Morris & Co.	65 0 0	Palowkar & Sons	42 16 6
G. Davis	65 0 0	W. Simmons†	37 11 0

RUNNING CONTRACT FOR CLOTHES HORSES :—

		Each.
W. Summerscales & Sons, Ltd.	each	£1 0 0
Bradford & Co.	,,	0 13 0
H. Davall†	,,	0 10 6
Thomas & Taylor, Ltd.†	,,	0 10 6

RUNNING CONTRACT FOR NEW PATTERN DRAWING DESKS :—

	Each.		Each.
J. H. Martin	£3 12 0	Hammer & Co. Ltd.	£1 18 6
Spencer & Co.	3 3 0	H. Bouneaut	1 15 0
Bennet Furnishing Co.	2 14 0	London School Furniture Co.†	1 15 0
T. Cruwys	1 19 0		

RUNNING CONTRACT FOR LARGE COAL HAMMERS :—

R. H. & J. Pearson, Ltd.	per doz.	£1 16 6
Lockerbie & Wilkinson, Ltd.	per doz†	1 10 6

RUNNING CONTRACT FOR TIMBER FOR REPAIRS TO FURNITURE :—

	London School Furniture Co.	S. Putney.†
3 in. by 3 in. yellow deal, at per 100 ft. run	£0 18 9	£0 16 8
3 in. by 2½ in. yellow deal, at per 100 ft. run	0 16 6	0 10 5
7 in. by 1 in. yellow deal, per square of 100 ft. super	1 0 0	0 13 9
9 in. by 1¼ in. plain yellow deal, at 100 ft. run	1 10 0	1 1 0
11 in. by ¾ in. plain pitch pine, at per 100 ft. run	1 5 0	0 16 8

PLASSY-ROAD SCHOOL, CATFORD.—Enlargement. The Board of Education have sanctioned the enlargement of the Plassy-road School, Catford, by 400 places. The plans of an enlargement by 320 places (viz., boys', 116; girls', 116; and infants', 88), which were passed by the Committee on May 14 last, include also the following other works proposed to be carried out at the same time :—Providing two new classrooms, sixty and fifty-six, and new cloakrooms for all departments; additional lavatory basins for girls' and infants' departments; also girls' and infants' teachers' water-closets inside building; additional water-closets for boys' and girls', and new infants' entrance and exit. (The accommodation of classroom C in infants' department will be reduced from seventy-eight to fifty-eight places in consequence of forming a new exit for infants'.) Also removing portion of existing boundary-wall towards Plassy-road, providing iron railing, and altering and repairing outside steps to girls' northern entrance :—

White & Co.	£5,095	Lorden & Son	£4,666
Kirk & Randall	4,995	Garrett & Son	4,618
Wallis & Sons	4,983	J. Appleby	4,590
Johnson & Co., Ltd.	4,939	J. & C. Bowyer	4,396
Edwards & Medway	4,886	Bulled & Co.	4,066
J. Marsland	4,789	Mitchell & Son†	3,870
Smith & Sons, Ltd.	4,675		

PORTOBELLO-ROAD SCHOOL, NORTH KENSINGTON.—Halls and other improvements :—

Boys' and Girls' Department.—(i.) Providing new hall for each department. (ii.) Providing new entrances and girls' lavatory. (iii.) Extending one classroom in the girls' department. *Infants' Department.*—(i.) Adapting two existing classrooms to form hall, and building two new classrooms for sixty each. (ii.) Rebuilding cloakrooms and lavatories. (iii.) Providing new entrance and corridor. The revised accommodation, on the complet on of the improvements, will be for boys', 366 (unaltered); girls', 371 (gain of 12); infants', 384 (loss of 14); total, 1,121, being a loss of two places in the total accommodation of the school. The accommodation of the old rooms, the seating of which will be altered, will now be calculated on the seat basis :—

Garrett & Son	£5,010	Martin, Wells, & Co.	£4,192
Leslie & Co., Ltd.	4,653	Miskin & Sons	4,056
Lawrance & Sons	4,350	Stimpson & Co.	4,040
Treasure & Son*	4,192	McCormick & Sons†	3,657

SANTLEY-STREET SITE (Ferndale-road, Brixton.—New School.—The school is a three-story building, and contains the following accommodation :—Boys', 55 ft. 2½ in. by 32 ft.; girls', 54 ft. 4½ in. by 31 ft. 7½ in.; infants', 54 ft. 4½ in. by 31 ft. 3 in. Classrooms—Boys' and girls' departments, each 56, 56, 56, 48, 48, 40; infants', 56, 56, 56, 50, 48, 40; special school for 40 children. Drawing class-room, 1,090 ft. area. Heating by low-pressure hot-water apparatus. Area of site, 52,590 sq. ft. Playgrounds (area per child)—Boys', 66 sq. ft.; girls' and infants', 33 sq. ft. An existing house to be retained on the site for the use of the schoolkeeper :—

		If walls of class-rooms and halls be plastered add
T. L. Green	£24,918 0 0	+ £384 0 0
F. & F. H. Higgs	23,436 0 0	+ 253 0 0
W. Downs	23,063 0 0	+ 250 0 0
W. Johnson & Co., Ltd.	22,640 0 0	+ 255 0 0
E. Lawrance & Sons	22,515 0 0	+ 235 0 0
J. Garrett & Son	22,308 18 6	+ 244 17 3
C. Cox	22,050 0 0	+ 266 0 0
G. E. Wallis & Sons	21,990 0 0	+ 218 5 0
Holliday & Greenwood†	21,866 0 0	+ 275 0 0

"SHAFTESBURY" TRAINING SHIP.—Heating apparatus in drying-rooms :—

Wontner-Smith, Gray, & Co.	£195	G. & E. Bradley	£145
J. Eason	176	Strode & Co.	113
Defries & Sons, Ltd.	150	Duffield & Sons†	83

SOUTHAMPTON-STREET SCHOOL (Camberwell).—Heating works :—

Kite & Co.	£80 0 0	Morris & Co.	£31 10 0
G. & E. Bradley	43 10 0	Wenham & Waters, Limited†	31 0 0
W. Simmons	43 8 6		
Knight & Sons	37 0 0		

STAR-LANE SCHOOL (West Kensington).—New pattern gallery and partition :—

General Builders, Limited	£247 0	London School Furniture Co.	£199 4
Lathey Bros.	213 0	W. Hammond*	198 0

SUPPLY OF BENTWOOD STOOLS FOR USE WITH DRAWING DESKS :—

	Each. s. d.		Each. s. d.
Shoolbred & Co.	2 11½	Phillips & Co. (B pattern)†	2 11
Thonet Bros.	2 11	Phillips & Co. (A pattern)	2 7

SURREY-LANE HIGHER GRADE SCHOOL, BATTERSEA.—Sanitary and drainage works :—

Wells & Co.	£1,809 0 7	H. & G. Mallett	£1,440 0 0
Falkner & Son	1,699 0 0	G. Kemp	1,400 0 0
W. Hammond	1,691 0 0	J. & C. Bowyer	1,396 0 0
G. Parker	1,655 0 0	Edwards & Medway	1,367 0 0
J. Carmichael	1,527 0 0	Rice & Son	1,362 0 0
Johnson & Co., Ltd.	1,486 0 0	Maxwell Bros., Ltd.†	1,346 0 0
Akers & Co.	1,481 0 0		
Lathey Bros.	1,449 0 0		

TIDEY-STREET TRANSFERRED SCHOOL, BROMLEY-BY-BOW.—Alterations and repairs :—

A. E. Symes	£1,195 0	G. Barker	£973 15
Gibb & Co.	1,100 0	T. H. Jackson	927 0
J. T. Robey	995 0	Elkington & Sons†	662 14

TRUNDLEY'S-ROAD SCHOOL (Deptford Lower-road).—Additional heating surface :—

Cannon & Sons	£239	Strode & Co.	£147
Kite & Co.	230	Lewis Hill†	139
Seward & Co.	184		

VICTORIA SCHOOL, STARCH GREEN.—Additional heating works :—

J. Gray	£109 0 0	Morris & Co.	£71 0 0
Wontner-Smith, Gray, & Co.	85 15 0	G. Davis	65 0 0
W. Simmons	72 13 1	Duffield & Sons†	62 18 0

WALTON-STREET TEMPORARY TRANSFERRED SCHOOL (Chelsea).—Cloak-rooms, Sanitary Works, &c.—Providing new outside cloak-rooms for all departments, lavatory basins for boys' and girls', stone staircase for boys', kindergarten gallery, partitions, &c., and also providing new outside water-closets, together with sundry other works in connexion therewith :—

J. Neal	£2,175	John Garrett & Son	£2,043
Rice & Son	2,123	F. G. Minter	1,999
Maxwell Bros., Ltd.	2,095	T. Hooper & Son*	1,736

WEST-SQUARE HIGHER GRADE SCHOOL (Southwark).—Additional heating surface :—

Jones & Attwood	£370	Duffield & Son	£290
Dargue, Griffiths, & Co., Ltd.	369	Defries & Sons, Ltd.	269
Cannon & Sons	299	Wenham & Waters, Ltd.†	210

WILLIAM-STREET SCHOOL, HAMMERSMITH.—Adapting school-keepers' old house for housewifery, providing partitions, &c. :—

W. R. & A. Hide	£850 0 0	W. Hammond	£692 0 0
Rice & Sons	782 0 0	S. Polden	458 0 0
Williams & Sons	770 0 0	Bristow & Eatwell*	393 7 6

WOOLMORE-STREET SCHOOL, POPLAR.—For adapting house for schoolkeeper; enclosing, &c., additional land and other works :—

Johnson & Co., 25 per cent. on schedule.		G. Barker	£1,065
Gibb & Co.	£1,175	Stevens Bros.	1,038
T. H. Jackson	1,139	Barrett & Power	998
Elkington & Sons	1,069	J. T. Robey†	988

WORNINGTON-ROAD SCHOOL, PORTOBELLO-ROAD.—Reconstructing boiler flue :—

E. B. Tucker	£497	Marchant & Hirst	£165 0
W. Hammond	185	Rockhall Bros.†	89 10
W. R. & A. Hide	175		

CLEANING AND PAINTING.

The work at the following schools will be done during the summer holidays—July 26 to August 25, 1900. Where exterior as well as interior work has to be done, an additional week will be allowed for the former.

BAILEY'S-LANE.—Painting interior and exterior (all buildings on site, including the iron buildings) :—

F. Bull	£577 0 0	Collis Wilmott	£369 5 6
G. Barker	398 10 0	Grover & Son	354 0 0
Silk & Son	377 0 0	J. Kybett*	324 0 0

BATH-STREET.—Painting interior (boys', girls', and infants'), and interior and exterior (special school) :—

T. Cruwys	£670	Johnson & Co.*	£485
G. Barker	485		

BARRETT-STREET.—Painting exterior :—

T. Cruwys	£217 0 0	F. T. Chinchen	£129 13 9
F. Chidley	170 0 0	W. Brown*	127 0 0
R. S. Buckeridge	169 0 0	W. Chappell	113 10 0

BATTERSEA PUPIL TEACHERS' CENTRE.—Cleaning interior :—

E. Flood	£177 10	Maxwell Bros., Ltd.*	£119 0
J. & C. Bowyer	121 0	C. Gurling	95 0

BERGER-ROAD.—Painting interior and exterior :—

Silk & Son	£650 0	J. Kybett	£463 0
Marchant & Hirst	517 0	Elkington & Sons*	311 5
G. Wales	492 0		

"BOW CREEK."—Painting interior and exterior :—

Gibb & Co.	£273 0	J. Kybett	£169 0
T. H. Jackson	203 10	S. H. Corfield*	148 0
J. T. Robey	190 0	J. Haydon	131 18

BUCK'S-ROW.—Painting exterior :—

Johnson & Co.	145 0	S. H. Corfield	£125 0
A. W. Derby	136 0	J. Kybett	108 0
J. F. Holliday	130 0	Stevens Bros.*	98 10

CAPLAND-STREET.—Painting interior :—

F. T. Chinchen	£143 10	W. Chappell	£349 0
Marchant & Hirst	414 0	Densham & Sons	337 0
T. Cruwys	399 0	W. Brown*	309 8
W. Hornett	384 0	Bristow & Eatwell	305 0

COBOURG-ROAD.—Painting interior (old portion and interior and exterior (new portion) :—

Rice & Son	£792	H. J. Williams	£561
E. B. Tucker	700	B. E. Nightingale	557
H. Line	643	G. Brittain*	464
Martin, Wells, & Co.	573		

COTTENHAM-ROAD.—Painting interior (old and new portions) :—

C. & W. Hunnings	£810 4 2	Stevens Bros.	£418 0 0
T. Cruwys	436 0 0	Marchant & Hirst	389 0 0
G. L. Kirby	445 0 0	J. W. Dixon*	325 0 0

DEAL-STREET.—Painting interior and exterior :—

J. Haydon	£518 10	Stevens Bros.*	£448 0
S. H. Corfield	504 0	G. Barker	380 0
T. Cruwys	496 0	Johnson & Co.	340 0
J. Kybett	456 0		

ECCLESBOURNE-ROAD.—Painting interior and exterior (all buildings) :—

E. Lawrance & Sons	£783	Stevens Bros.	£576
J. Kybett	682	G. Barker*	520
Marchant & Hirst	669		

[See also next page.

ESSEX-STREET.—Cleaning interior (boys' and girls') and painting interior (infants' and pupil teachers' schools):—

A. E. Symes	£353 0	G. Barker	£345 0
A. W. Derby	385 0	J. Kybett	319 0
Heard & Co.	378 0	J. Haydon	314 19
J. F. Holliday	347 10	Elkington & Sons*	293 15

"HIGHWAY."—Painting interior (old and new portions):—

J. Kybett	£479	A. W. Derby	£490
S. H. Corfield	460	J. F. Holliday*	415
J. T. Robey	447	G. Barker	379

HORSEFERRY-ROAD.—Painting exterior:—

Martin, Wells, & Co.	£200 0 0	Holliday & Greenwood	£140 0 0
J. F. Ford	172 0 0	E. B. Tucker	129 13 6
B. E. Nightingale	160 0 0	Lathey Bros.*	107 0 0

HUGH MYDDELTON (Junior school).—Painting:—

G. Barker	£125	Johnson & Co.	113
J. Kybett	125	Stevens Bros.*	107

"HUGH MYDDELTON."—Cleaning interior of school and painting interior of deaf centre:—

J. Kybett	£364	Johnson & Co.	£435
Stevens Bros.	535	G. Barker*	388

HUNGERFORD-ROAD.—Painting interior and exterior:—

T. Cruwys	£607	Marchant & Hirst	£519
Stevens Bros.	566	J. W. Dixon*	505

KILBURN-LANE.—Painting interior:—

G. Neal	£710 0	W. Hammond	£490 0
Lathey Bros.	649 0	F. T. Chinchen	448 0
T. Cruwys	623 0	F. Chidley*	324 18

LEWISHAM BRIDGE.—Painting exterior:—

W. Hayter & Son	£195 0	W. Banks	£198 10
W. J. Howie	226 0	S. Musgrove*	158 0
A. Black & Son	200 0		

MAWBEY-ROAD.—Painting interior (enlargement):—

Johnson & Co.	£285 0 0	H. Line	£198 0 0
W. Banks	203 12 6	H. J. Williams*	178 0 0

MERTON-ROAD.—Painting exterior and cleaning interior:—

R. S. Ronald	£380 0	E. Triggs	£259 0
Lorden & Son	311 15	Maxwell Bros., Ltd.*	247 0
Johnson & Co., Ltd.	265 0		

MONTEM-STREET.—Painting interior (old and new portions):—

C. & W. Hummings	£1,040 15 6	W. H. Stephens	£568 0 0
Marchant & Hirst	590 0 0	G. L. Kirby	552 0 0
		Stevens Bros.	508 0 0
		J. W. Dixon*	380 0 0

RENDLESHAM-ROAD.—Painting exterior (all departments), cleaning interior (boys', girls', and infants'), and painting interior (junior mixed):—

F. Bull	£596	G. Barker	£422
J. T. Robey	501	Stevens Bros.	418
J. Kybett	449	Barrett & Power*	365
Silk & Son	424		

ROTHERHITHE NEW-ROAD.—Cleaning interior:—

A. White & Co.	£261 0 0	H. Line	£210 0 0
W. Banks	254 10 0	J. Garrett & Son*	183 0 0
E. B. Tucker	238 0 0		
Johnson & Co.	227 0 0		

SANDFORD-ROW.—Painting exterior and cleaning interior:—

H. J. Williams	£485	Rice & Son	£411
G. Brittain	476	Garrett & Son	397
E. Triggs	422	H. Line	375
W. V. Goad	416	B. E. Nightingale*	348

ST. ANDREWS STREET.—Painting interior:—

W. V. Goad	£640	E. Triggs	£464
Rice & Son	628	Holloway Bros.*	425
Lathey Bros.	473		

ST. JOHN'S-ROAD.—Painting interior (old school):—

Grover & Son	£632	Lawrance & Sons	£533
McCormick & Sons	545	G. Barker*	368

THOMAS-STREET.—Painting interior (boys', girls', and infants'):—

Gibb & Co.	£654	A. W. Derby	£610
T. H. Jackson	637	J. T. Robey	590
S. H. Corfield	629	J. F. Holliday	350
G. Barker	621	J. Kybett*	482

TOTTENHAM-ROAD.—Painting:—

A. W. Derby	£880 0 0	S. H. Corfield	£576 0 0
Unsigned	650 0 0	Gibb & Co.	566 0 0
Grover & Son	628 0 0	C. Willmott	536 0 0
G. Kirby	582 0 0	W. Hornett*	435 19 0

WESTMINSTER BRIDGE-ROAD.—Painting interior and exterior (all buildings):—

R. S. Ronald	£845 0	G. Kemp	£497 0
B. E. Nightingale	590 0	Johnson & Co.*	434 0
H. J. Williams	548 0		

WESTVILLE-ROAD.—Painting interior:—

Marchant & Hirst	£379 0	W. Hammond	£420 0
S. Polden	330 0	F. T. Chinchen	415 0
E. Flood	496 0	W. R. & A. Hide*	397 10

UPPER KENNINGTON-LANE.—Painting interior:—

Bulled & Co.	+ 25 on schedule	J. F. Ford	£431
W. Smith	£484	Rice & Son	397
Holloway Bros.	452	G. Brittain	376
		H. & G. Mallett*	356

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